

# INSIDE DOPE

Learn to live and laugh—  
Thus delay your epitaph

By GEORGE  
F. TAUBENECK

Stories of the Week  
Philosophy of the Week  
Verses of the Week  
Are You a Father?  
How Long Will You Live?  
It Pays To Be Lucky  
Laffs from Newspapers  
Definitions of the Week  
Comforting Closers

## Stories of the Week

Half an hour after his luncheon talk the speaker consulted a close friend.

"What was your impression?" he anxioussed, still mopping his brow.

"Good speech; but you missed several opportunities to sit down."

Fresh back from a North Korean prison camp, an Army chaplain bought a Chevrolet convertible with his delayed pay. Proudly he drove it to his small-town church every Sunday.

An anonymous letter-writer chided him: "Our Lord never rode in an automobile."

Cutely the parson read this nasty letter, prior to his sermon, and then challenged:

"If the author will come to our church next Sunday properly saddled and bridled, I shall be glad to follow the Lord's example. Jesus, as he or she should remember, entered Jerusalem riding on an ass."

Grimy and grizzled man with a 52-inch chest expansion wheeled into one of Detroit's few bookstores.

"Gimme two Bibles," he boomed. Nobody asked for an explanation, but he couldn't wait to give it.

"Buying one fer meself; the other fer me buddies at the plant. Lotta gambling there. Intend to convert 'em to reelijah."

Smiled the bookstore proprietor: "I wish you good luck."

"Brother, thank you. Shop steward laid me three-to-one I won't make a convert."

An oddly matched pair of movie producers formed a partnership.

Six weeks later Moe discovered that his partner once had been engaged to Moe's present wife.

Suddenly Moe pulled out of the deal.

"I couldn't afford to tie up with a man that much smarter than me," he explained to Hedda Hopper and Louella Parsons.

To the question, "What machines can you operate?" a teen-ager filled in the blank line:

"Slot and Pin Ball."

## Philosophy of the Week

I armed her against the censures of the world; showed her that books were sweet unreproachable companions to the miserable, and if they could not bring us to enjoy life, they would at least teach us to endure it.—GOLDSMITH.

A nation's best ambassadors do not come dressed in Homburg hats, frock coats, and striped pants, but in the bright-colored jackets of books.—Christian Advocate.

The leaders which this world will have to depend on in the next generation, if it is permitted to last that long, will come from the GIFTED—not the so-called average children.—DORIS GATES.

(Concluded on Page 14, Col. 1)

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FHA Policy  
On 'Open-End'  
Mortgage Loans

## FHA Policy On 'Open-End' Mortgage Loans

WASHINGTON, D. C.—The Federal Housing Administration has decided to apply the same regulations to insurance of "open-end" mortgages as it does to Title 1 home improvement loans.

FHA officials announced this decision prior to publication of new rules which will carry out the provisions of the recently passed Federal housing law.

It means, they indicated, that FHA will only insure loans made for the purchase of equipment permanently installed as part of the house. FHA insurance will not be available on loans for the purchase of appliances, packaged kitchens, or room air conditioners. It was indicated that permanently installed dishwashers would be (Concluded on Back Page, Col. 1)

## IAEL Conference Set for Philadelphia Sept. 29 to Oct. 2

NEW YORK CITY—The 19th annual conference of the International Association of Electrical Leagues will be held at the Bellevue-Stratford hotel, Philadelphia, from Sept. 29 to Oct. 2, the IAEL announced recently.

The first three days will be devoted to general sessions and the last day to the business affairs of the organization.

President Albert L. Maillard, president and managing director, Electric League of Indianapolis, has appointed a program committee headed by H. E. Cook, executive secretary, The Electrical Association of Detroit. Other members are: G. L. Logan of Los Angeles, H. H. Johns of Pittsburgh, R. L. Wilkinson of Spokane, D. E. Rosenthal of Omaha, and J. F. Mowat of Toronto, Canada.

(Concluded on Page 4, Col. 4)

## Two Supermarket Chains Begin Air Conditioning

DES MOINES, Iowa—Two statewide chains of supermarkets have instituted a program of air conditioning their stores, indicates S. G. Taylor, head of Taylor Refrigerator Co. here.

One chain, the Hy-Vee stores owned by Chariton Wholesale Grocery Co. of Chariton, Iowa, started its program last year and to date has air conditioned nine of its 40 stores.

Thriftway Stores, headquarters in Des Moines, is just starting its air conditioning program. Five of the chain's best stores in Des Moines were scheduled for installations this season.

Taylor, who carries the Typhoon line of air conditioning, has long been a Hussmann dealer in Des Moines.

"We tell people we know the problems of air conditioning in markets and understand thoroughly the many problems involved in (Concluded on Page 33, Col. 4)

## New Tax Law Aids Salesmen, Consumers

WASHINGTON, D. C.—Under the new income tax law recently passed by Congress, consumers making purchases on the instalment plan can now deduct the interest paid on their purchases, even though the interest is buried in the carrying charge.

The new law also gives outside salesmen two business expense deduction advantages they did not have before.

Under the old law, consumers could deduct on their income tax statements the interest charge on instalment debts when it was stated separately, but they could not deduct carrying charges. Now they are permitted to deduct interest up to 6% on the unpaid balance when the interest charge is not stated separately.

The wording on the new law is as follows:

"If personal property is purchased under a contract which provides that payment or part or all of the purchase price is to be made in instalments, and in which carrying charges are separately stated but the interest charge cannot be ascertained, then the payments made during the taxable year under the contract shall be (Concluded on Back Page, Col. 2)

## Dallas, Ft. Worth Continue Air Conditioning Boom

On figures recently made available by electric power companies and from other sources, air conditioning installations of all kinds continued in a healthy growth pattern in 1953.

First of these statistical studies, published on page 15, covers Dallas and Ft. Worth.

The number of electrically refrigerated room air conditioners sold in Dallas in 1953 totaled 26,902 units, compared with 15,508 in 1952.

Residential air conditioning systems of the electrically refrigerated type installed in Dallas in 1953 totaled 896 systems, compared with 625 in 1952.

Commercial installations (above the room air conditioner size) (Concluded on Page 15, Col. 1)

## David Feinberg Promoted To President of UsAirco

MINNEAPOLIS—David E. Feinberg, formerly vice president, has been elected president of United States Air Conditioning Corp.

The company is one of the oldest manufacturers of air conditioning equipment in the country, with plants in Minneapolis and St. Paul.

Feinberg, a graduate of the University of Minnesota with a degree of mechanical engineer, has been an officer and director of United States Air Conditioning for several years.

## Heating and Ventilating Show Returns to Phila.

NEW YORK CITY—The International Heating & Ventilating Exposition, also known as the air conditioning exposition, will return to Philadelphia, where it was last held in 1951, for the 12th biennial session Jan. 24 to 28, 1955, it has been announced.

The show will be sponsored as heretofore by the American Society of Heating & Ventilating Engineers, whose 61st annual meeting will be the same week.

Space reservations already made exceed the total at the last exposition, two years ago, forecasting the largest display of its kind ever made, it was reported.

The entire facilities of Philadelphia's Commercial Museum and Convention Hall will be utilized, with all of the exhibits on one level. Every phase of heating, ventilating, and air conditioning will be covered.

The exposition continues under the management of the International Exposition Co. at 480 Lexington Ave., New York.

## FTC Sets Sept. 14 To Hear Complaints Against Borden Co.

CLEVELAND—The Federal Trade Commission has set Sept. 14 as the date for a hearing of complaints against the Borden Co. for unfair practices including the giving away of refrigeration equipment. The hearing will take place in New York City.

W. Ray Kromer, executive vice president of the Refrigeration and Air Conditioning Contractors Association, who has been sparking RACCA's drive to get the FTC to act against "unfair" dairy competition with refrigeration contractors, reported that hearing dates for complaints against other dairies are being set but have not yet been announced.

He also reported that Arden (Concluded on Back Page, Col. 5)

## St. Louis Wants Higher Water Rate for Cooling

ST. LOUIS—The St. Louis County Water Co. recently asked the state for permission to place a surcharge of \$40 per year for each ton capacity on water-cooled air conditioners of the "non-converted" type.

Petition, filed with the Missouri Public Service Commission at Jefferson City, described "non-converted" units as those air conditioners which do not have water conservation equipment such as cooling towers, atmospheric condensers, or spray ponds for reclaiming the water instead of dumping it into sewers.

The new rate would become effective May 1, 1955.

In a letter accompanying the petition, W. Victor Weir, president of the water company, told the commission:

(Concluded on Page 33, Col. 3)

# Commercial Shipments 7% Ahead of 1953

June Shipments Close to  
Setting Record, CRMA  
Members Told at Meeting

CHICAGO—Shipments of commercial refrigerators for the first half of 1954 exceeded the 1953 industry comparable figure by nearly 7%, it was disclosed at the recent annual meeting of the Commercial Refrigerator Manufacturers Association here.

Individual volume increases of as much as 15% were reported. Although May was not a too satisfactory month from the standpoint of current order bookings, and some feared a continuing downturn, June shipments came close to setting a new industry record, the members were told. Since shipments and customer sales are virtually synonymous in the industry this performance represents actual conditions in the field.

As several executives pointed out, sales staffs are selling harder than ever before, and sales costs have increased substantially over last year, which has had the effect of reducing profits somewhat. Reese L. Harrison, president of Friedrich Refrigerators, Inc., who was completing his term as CRMA's chief executive, was chairman of this meeting.

The second half, it was generally (Concluded on Page 33, Col. 1)

## NARDA Asks Action On Bootlegging

WASHINGTON, D. C.—Appliance retailers came out in support of the efforts of the auto industry to secure anti-bootlegging legislation with letters sent to all members of the Senate by Vergal Bourland of Fort Worth, Texas, president of the National Appliance & Radio-TV Dealers Association (NARDA).

In the same letter, Bourland advocated prompt favorable Senate action on H.R. 6440 which lessens the excise tax on UHF television receivers. Reasons for favoring this, he said, were the need for expanding television service as widely as possible, and the great need this new service had for stimulation which the cost-lessening of tax relief would provide.

Pointing out that while the auto industry frequently competes with the appliance field for the same consumer dollars, the NARDA head stated that "Our sympathy (Concluded on Page 4, Col. 1)

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## Worthington Completes L. J. Mueller Acquisition

MILWAUKEE—Hobart C. Ramsey, president of Worthington Corp., and Harold P. Mueller, Sr., formerly president of the L. J. Mueller Furnace Co. of Milwaukee and now president of the Mueller Climatrol Div. of Worthington Corp., announced completion of the acquisition of the furnace company, effective July 30.

The stockholders of Mueller previously approved the sale of the company's name, assets, and goodwill to Worthington, in exchange for Worthington common stock.

The products of the Mueller Climatrol Div. will supplement Worthington's air conditioning line with a line of residential and commercial heating and cooling equipment as well as year-round residential air conditioning.

Mueller Climatrol, founded in 1857, also produces a complete line of oil, gas, and coal-fired warm air heating units, hot water and steam boilers, and gas and oil unit heaters. Recent additions to the Mueller Climatrol product line include gas and electric incinerators and a new dehumidifier.

Worthington, founded in 1840 for the manufacture of marine pumps, today produces central station air conditioning equipment, refrigeration components, compressors, steam power plant equipment,

steam turbines, diesel and dual fuel engines, mechanical power transmission equipment, electric generators, motors and controls, construction equipment, and welding positioners.

The full line of Mueller Climatrol products will continue to be produced in the 15-acre Mueller plant in Milwaukee, which will be operated as the Mueller Climatrol Div. of Worthington. Worthington's cooling components and commercial packaged units are manufactured in Holyoke, Mass., and Decatur, Ala.

The employees and management of Mueller Climatrol will continue.

## Carrier-Bock Plans New Building In Fort Worth

FORT WORTH, Texas—Carrier-Bock Co., distributor of Carrier air conditioning, is planning a new building at the corner of Currie and Morton Sts. here. George L. Frymire, Jr., vice president, said the brick and stone structure will have 6,000 sq. ft. of floor space. Construction is expected to be completed the first of next year.

Carrier-Bock has been in Fort Worth since 1937. The new facilities will enable Carrier-Bock to enlarge its engineering staff and to warehouse additional equipment which the company supplies to dealers in the Fort Worth area. The site will provide about 6,000 sq. ft. for parking area.

## Jurors Claim Noise, Heat Impair Court's Efficiency

CINCINNATI—Urging that the grand jury room at the County Courthouse be air conditioned, a grand jury report to Judge Louis J. Schneider stressed that lack of cooling in the room is impairing the efficiency of the court.

Said the report: "The conditions under which the grand jury is expected to work are far from satisfactory. The acoustics are poor and the heat unbearable, especially in view of the fact that jurors have to sit for three hours or more.

"The windows must frequently be closed because of the noise from the jail and the courtyard and when the two fans are turned on full force they make too much noise to hear the witnesses.

"Under these conditions neither the jurors, the prosecutor, nor the court reporter can give their best efforts, and inasmuch as other parts of the courthouse are being air conditioned we feel that the grand jury room should also.

"We trust the county commissioners will consider this in connection with the report of the previous grand jury."

Judges have to work under the same conditions—open the windows for air and have trouble hearing due to outside noises, or, as one judge put it, "close the windows and fry."

## June Appliance Sales Up In Philadelphia

PHILADELPHIA—Sales of five major appliances perked up sharply during June when compared with the same month last year for Philadelphia distributors, a report from the Electrical Association of Philadelphia indicates.

Range sales were 66% better than last year, dishwashers 46%, home freezers 28%, air conditioners 19%, and clothes dryers 17%, Electrical Association figures

showed. Refrigerator sales came within 4% of last year's level.

For the first six months range sales were 27% ahead of 1953, dishwashers were up 16%, air conditioners 13%, and clothes dryers 3%. Refrigerators were down 7% and home freezers down 39%.

Comparative unit sales for these appliances in Bucks, Chester, Delaware, Montgomery, and Philadelphia counties were as follows:

Appliance	1954	1953	Total Jan. to June 30, 1954	Total Jan. to June 30, 1953
Air Conditioners	6,410	5,345	28,061	20,383
Clothes Dryers	593	505	3,938	3,804
Dishwashers	668	455	2,601	2,237
Home Freezers	980	761	4,560	7,459
Ranges	2,289	1,377	9,242	7,258
Refrigerators	6,917	7,197	33,990	36,520

## 1955 SMI Convention Advanced to May 1-4

CLEVELAND—Super Market Institute will hold its 18th annual convention at the Cleveland Public Auditorium here, May 1 to 4, 1955, it was announced recently by Don Parsons, executive director.

Behind the decision to hold the giant supermarket meeting almost a month earlier in the year is an interesting story of inter-industry cooperation, Parsons said.

"Super Market Institute has, for some time, been trying to get its convention dates away from the Decoration Day weekend—but long term commitments of the Public Auditorium have made that difficult.

"Even more important to the institute than the Decoration Day factor has been the feeling on our part that early June has long been the traditional time for the meeting of another great organization in the field, National Association of Retail Grocers of the United States.

"This has been a matter of friendly discussion for some time between Paul Willis, of Grocery Manufacturers of America, Mrs. Rose Marie Kiefer, and ourselves. Sidney R. Rabb, chairman of Super Market Institute's trade relations committee, had also contributed materially to the discussion.

"After more than a year of planning with the public officials of the city of Cleveland, we have found it possible to free these days in the first week in May, 1955—and move the supermarket show."

## Trane 6-Mos. Profit Up 94% Over '53; Sales Rise, Too

LA CROSSE, Wis.—A 94% increase in net profit for the first six months of 1954 as compared with the same period last year was reported by the Trane Co. here.

Donald C. Minard, president, attributed the sharp rise to a 19.3% rise in sales volume, removal of the excess profits tax, and a long range program of cost reduction involving more automation in manufacturing and more efficient materials handling methods.

Trane's net income after tax was \$1,710,374 as compared with \$881,633 for the same period last year. Sales rose from \$20,502,168 last year to \$24,460,936 in the first half of this year. Earnings per share were \$2.85 this year as compared to \$1.47 in 1953.

## Order Chart Issued For 'All-Weather' Cover

NEW YORK CITY—An order chart for the "All-Weather" window air conditioner cover has been issued recently by the All-Weather Supply Co., Inc. here recently.

The chart gives ordering information and code numbers for covers for 78 brands of air conditioners, including current and previous models.

On the reverse side of the chart is descriptive information on the All-Weather cover.

## La Crosse Factory Closes For Two-Week Vacation

LA CROSSE, Wis.—The La Crosse Cooler Co. here has announced that its factory will be shut down for a two-week vacation period starting Aug. 23.

During this period there will be a skeleton force on hand to handle urgent orders. However, the management did state that they would appreciate their dealers anticipating their needs as much in advance as possible.

Full production will again be resumed after the Labor Day holiday period on Tuesday, Sept. 7.



## Service-Master

THE IDEAL AIR CONDITIONING AND REFRIGERATION SERVICE BODY

Here's the body that takes a completely equipped shop to the job, and saves up to 75 minutes per day. Using the latest average service base rate of 6 cents a minute and an average saving of 30 minutes a day . . . Service-Master saves \$478.00 worth of time a year. Available in sizes for 1/2, 3/4, 1, and 1 1/2 ton chassis—regardless of age or make. The coupon below will bring complete details, with no obligation to you.

## MAKE YOUR PICK-UP TRUCK A SERVICE TRUCK, TOO!

SERVICE-TWINS



These easy-to-install tool and material compartments are finished in baked-on, medium-dark green enamel. Parts bins are built-in. Doors have slam-action catches, with locks keyed alike. Available with overhead rack.

MCCABE-POWERS AUTO BODY CO.  
5900 No. Broadway • St. Louis 15, Mo.

Please send me complete details on:  
 SERVICE-MASTER  SERVICE-TWINS  
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 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City & State \_\_\_\_\_



## OFF TO A GOOD INSTALLATION . . .

Why? Because the copper piping on this installation, as on all he makes, is going to be an all-Anaconda job. Uniform temper and exact fitting for fast connection speed up his work . . . help maintain his reputation for quality. He buys only

from his regular wholesaler and gets the prompt, reliable service he wants. Your own jobber will meet all your piping needs with the same dependable service. Ask for ANACONDA Refrigeration Products. Look for the ANACONDA Trademark.

THE AMERICAN BRASS COMPANY, Waterbury 20, Conn.  
In Canada: Anaconda American Brass Ltd., New Toronto, Ontario



4 QUALITY PRODUCTS, EACH THE RESULT OF MODERN MANUFACTURING METHODS

1. Copper tubes in 50-ft. coils.
2. Hard copper tubes in straight lengths.
3. Fittings (elbows, tees, couplings, unions, adapter and reduction combinations, etc.).
4. American Vibration Eliminators.

*A new slant on open merchandising*

## TYLER SALES-CASES!

...the new  
line that's  
revolutionizing  
self-service!

- FASTER TURNOVER AND GREATER VOLUME SALES
- EASIER INSTALLATION AND SERVICE
  - LOWER OPERATING COSTS
  - LOWER MAINTENANCE COSTS
- EASIER DISPLAY AND STORAGE LOADING
  - MANY OTHER ADVANTAGES



easy-see



easy-bend



easy-reach  
for customer—for clerk!

Tyler offers the most *complete* line of commercial food refrigeration equipment—with famous Advanced Design leadership, Welded-Steel construction, plus many other outstanding features and values that help you sell! You'll find *prospects everywhere*—in food stores, supermarkets, hotels, restaurants, institutions, bakeries, taverns, bars, drug stores, etc.

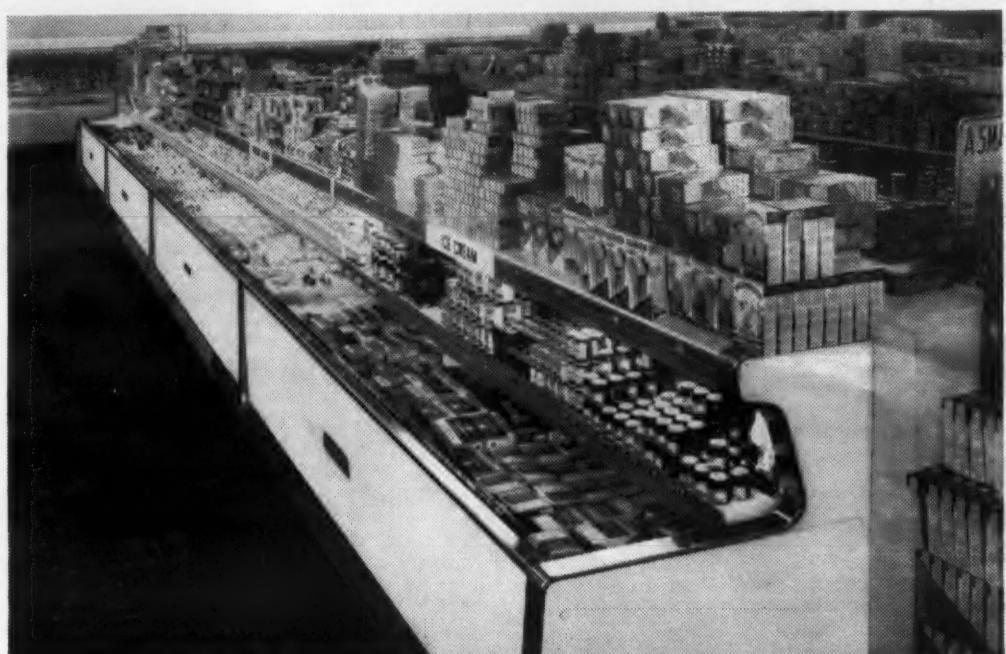
WE INVITE INQUIRIES FROM WELL RATED  
COMMERCIAL REFRIGERATION ORGANIZATIONS—write

# TYLER

TYLER REFRIGERATION CORPORATION  
NILES, MICHIGAN

In Canada—write Tyler Refrigerators, 128 Avenue Road, Toronto, Ontario

COMING SOON! NEW STAINLESS STEEL REACH-IN LINE!



FROZEN FOODS &amp; ICE CREAM. Easy reach for customer to any part of display, with new, low 36" height!



MEATS. Tyler Sales-Cases offer wide-open display; customers see more—buy more, faster!



PRODUCE. Completely restyled Tyler Sales-Cases spotlight your merchandise instead of competing with it!



DAIRY PRODUCTS. New Sales-Cases offer greatest accessible capacity—every display inch a "live" selling area!

## NARDA Asks Action on Bootlegging--

(Concluded from Page 1, Col. 5)  
for them comes from having confronted the same type of problem."

He urged the senators not to let the auto dealers' bill get "sidetracked into peripheral investigations. It's something they need and deserve. We know from similar experience. And we hope that our industry may be given comparable consideration in the future.

"All we retailers ask is that our suppliers and we may be permitted to cooperate to protect the standing of those brands with which our individual stores are identified.

### DEALER HAS EQUITY IN BRAND NAME

"You see, we do have equity in those brands. We've spent a great deal of money and effort training salesmen, instilling loyalty to those brands, advertising them, identifying our stores with them, laying groundwork for their sales, installing and maintaining service departments or else working with well-qualified service agencies, and we or they stock parts.

"It would be far cheaper and easier to pick up whatever lines we could get as bargains, use price-inducements as bait for consumers and then let them find their own methods of obtaining full satisfaction with whatever they bought.

"But there is a great and lasting element in this industry to which

customer protection and satisfaction is important and we find that our best means of accomplishing this is by brand identification and by devoting our entire establishment's efforts to the furtherance of the acceptance and satisfactory performance of those brands.

### REPUTATIONS JEOPARDIZED

"Occasionally, with the many outlets any product must have to obtain national distribution, others not concerned with the reputation of our brands in our communities can secure these products through bootleg channels. The reputations we've won for our brands through years of conscientious selling and servicing then become jeopardized. Their sales are parasitically predicated on the standing we've won for these brands.

"By providing the manufacturer, distributor, and dealer with the devices for assuring that merchandise will reach the consumer through authorized channels, you are rendering a service to the consumer. You are also providing a measure of protection of a property he has helped to develop to the dealer far more modest in scope than that provided other elements in our economy."

In support of this contention, Bourland cited labor's wage minimums and union bargaining position, agricultural props, tariffs, and trade-marks and copyrights.

### Last Call for Changes In 1955 Directory

Listings of manufacturers and wholesalers are now being compiled for the 1955 edition of the Refrigeration and Air Conditioning Directory.

Have you had changes in your organization since you replied to the questionnaire?

If your company has already been contacted, but changes have occurred since your reply—changes in personnel, new products, changes in address or trade names, please let us know.

If you have not yet received a questionnaire and are a manufacturer of consumer products, components, materials, or supplies for the air conditioning and/or refrigeration industry, write to Directory Editor, 450 W. Fort St., Detroit 26, Mich.

### Display Reminds Shopper To Stock Home Freezer

HAMMOND, Ind.—Sweitzer Foods supermarket here has a display of a forequarter, hindquarter, and side of beef hung on the wall over its self-service meat cases to remind shoppers that the store offers wholesale cuts for home freezers. Plastic discs are placed on each primal cut to give per-pound prices.

### IAEL Meeting--

(Concluded from Page 1, Col. 2)

The program will include such subjects as room air conditioners; rewiring of homes; certified lighting; trade educational programs; electric home space heating; industry educational courses; electrical equipment and production on the farm; and legal aspects of trade association work.

All members of the electrical industry interested in work undertaken cooperatively by leagues and other similar local bodies are cordially invited to attend the conference and participate in the discussions.

### ASHVE-ASRE Committee On Cooperation Appointed

NEW YORK CITY—To coordinate more closely and minimize the possibility of having overlapping activities, a joint committee on cooperation consisting of five representatives each, from The American Society of Heating & Ventilating Engineers and the American Society of Refrigerating Engineers has been appointed by the presidents of the two societies.

L. N. Hunter of ASHVE and Arthur J. Hess of ASRE announced the committee personnel is as follows:

Merrill F. Blankin, Philadelphia; Peter B. Gordon, New York City; John E. Haines, Minneapolis; Everett N. McDonnell, Chicago; and Prof. Elmer R. Queer, State College, Pa., representing ASHVE; and, Frank H. Faust, Bloomfield, N. J.; Prof. Carl F. Kayan, James Larkin, John F. Stone, and Nathan N. Wolpert, all of New York City, representing ASRE.

The following officers were elected at the organization meeting of the committee here: Chairman, F. H. Faust, ASRE; vice chairman, E. N. McDonnell, ASHVE; secretary, M. C. Turpin, ASRE.

At this meeting the chairman outlined the committee's objectives and there was a thorough discussion of the functions of the two societies including overlapping membership, scope and methods of operation, publications, research, and other activities.

To divide the work of making a comprehensive survey of the respective fields of interest, operations, and services and to provide material for discussion and recommendations by the committee, the following five subcommittees were appointed:

Research and technical services, including codes and standards, Peter B. Gordon and John F. Stone; publications, *Guide*, *Data Book* and periodicals, Everett N. McDonnell and Nathan N. Wolpert; membership analysis including character of, determination of interests and overlapping, Prof. Carl F. Kayan and John E. Haines; meetings, Merrill F. Blankin and James Larkin; and financial analysis, Frank H. Faust and Prof. Elmer R. Queer.

Reports will be made at the next meeting of the committee, scheduled to be held here late in September.

### Philco Distributors

#### Sign New Franchise

PHILADELPHIA—John M. Otter, executive vice president of Philco Corp., announced that every Philco distributor in the country—with the exception of those in Texas—have signed new franchises aimed at eliminating transshipping of merchandise.

Texas distributors are prohibited from signing such agreements by state law.

The new franchises are said to give Philco the right to buy merchandise that has been transshipped and send it to the distributor involved, billing the wholesaler for the cost, plus freight.

Otter declared, "Every Philco distributor in the United States has been enthusiastic about what we are trying to do to check transhipment of goods and other evils which have crept into the distribution system of our entire industry. "We are tremendously encouraged by the enthusiastic support from our loyal group of distributors and we know they will put real value into the franchise."

### Caught In 'Death Trap'

#### 2 Yrs. Ago, Gary Smith Still Fights for Life

SPRINGFIELD, Vt.—Two years ago, Gary Smith, then a lad of three, spent five hours locked in an abandoned refrigerator—and survived.

He was not counted among the "death trap" victims because he lived. But . . . here is his story.

When found in the refrigerator, Gary was in a coma. Doctors learned that the lack of oxygen during his imprisonment had damaged his brain. Gary could not see and he could only partially use his limbs.

For 40 days, Gary remained in his coma and was considered to be on the danger list. Doctors said that he might live the rest of his life in the coma. But after 48 days, Gary stirred and said "Hi, Daddy" to his father.

During the first year following the accident, Gary could not sit up. He could not walk. He could not feed himself. He could not see. His parents, with the aid of funds contributed by other New Englanders, continually took him to specialists.

Slowly Gary's condition began to improve. Now, two years later, five-year-old Gary can sit up in a high chair. He can walk in a baby walker. He can feed himself a sandwich. He can use his left leg and arm quite a bit. And he can distinguish between light and darkness.

What of his future? The doctors won't say. His parents hope and pray.

#### Too Hot To Talk

NASHVILLE, Tenn.—Lack of air conditioning in exchange offices prompted 300 telephone operators here to walk off their jobs in protest, crippling local and long distance service.

#### FACTORY REPRESENTATIVES WANTED

#### 4 Lucrative Territories Open For

## SCHAEFER

#### FROZEN FOOD CABINETS

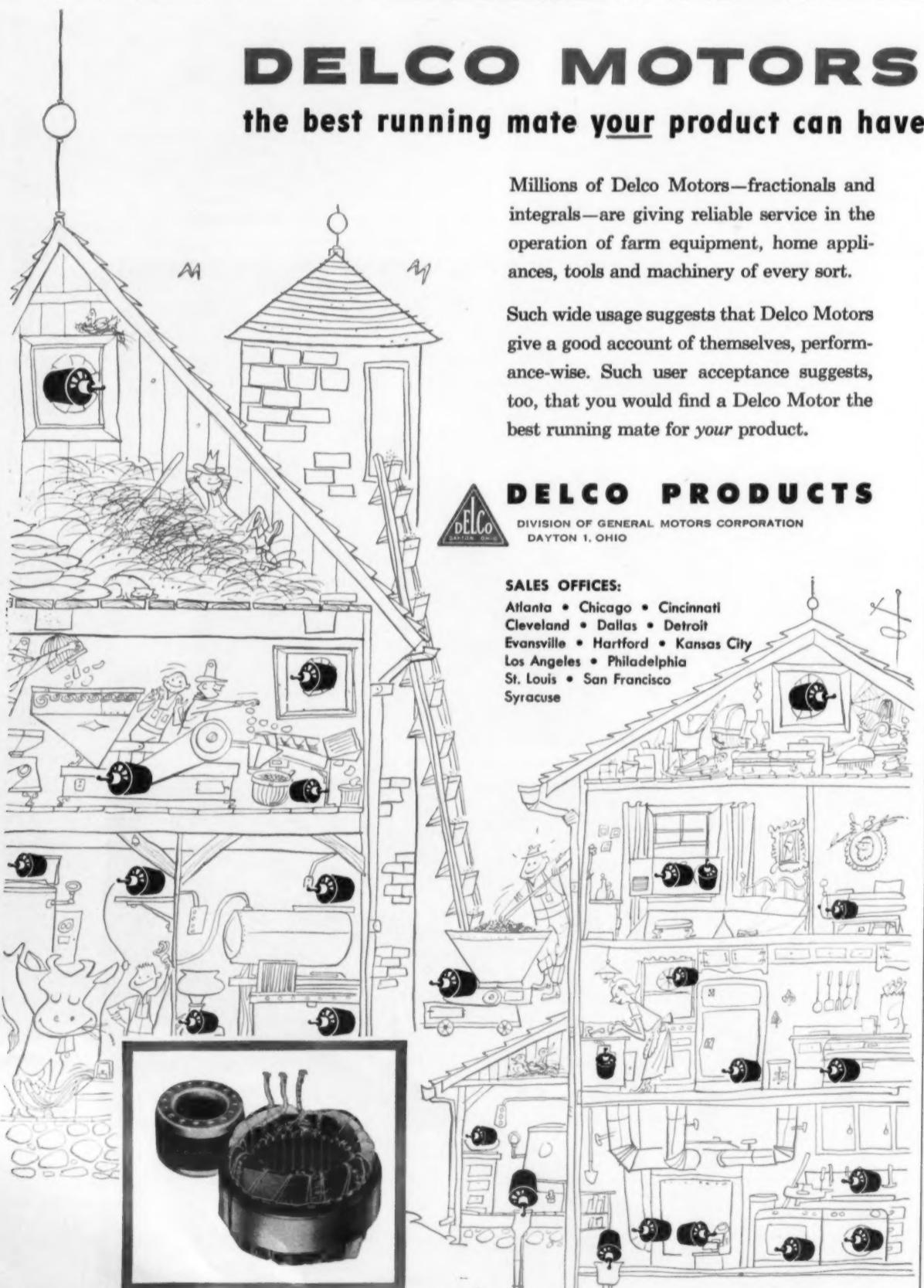
"Especially Designed for Frozen Food Merchandising"

Our new policy of forming the Frozen Food Cabinet Division of Schaefer, Inc. enables us to expand our sales organization. Four lucrative territories are open for experienced, aggressive representatives.

#### A COMPLETE LINE

This 25-year-old company, one of the country's leading low temperature cabinet manufacturers, has recently introduced a complete line of frozen food merchandising cabinets—glass tops, glass front open-tops, self-defrost, double duty, and extra storage models. Enjoying excellent reception from the trade. If interested, write to Frozen Food Cabinet Division of

SCHAEFER, INC., MINNEAPOLIS 1, MINN.



## Boone, Lockhart, Smith, Marquardt Elected B&G Vice Presidents

MORTON GROVE, Ill.—Four new vice presidents have been elected by the board of directors of the Bell & Gossett Co., Earl J. Gossett, chairman, announced recently.

Those named were W. A. Boone, H. A. Lockhart, R. A. Marquardt, and C. R. Smith.

Boone, who becomes vice president and assistant treasurer, has been with Bell & Gossett since 1941 and since 1947 has served as assistant sales manager in charge of industrial heat exchanger products.

He also is a member of the company's board of directors. He is an associate member of the American Society of Heating and Ventilating Engineers.

Lockhart, who becomes vice president and chief engineer, has served as chief engineer of the company since 1934. His research developments have been responsible for innovations in the design of industrial stokers and many other of the company's products.

Since 1940, when he joined the company, Marquardt has served as comptroller and assistant secretary. He will continue in those positions as a newly elected vice president.

Smith, who becomes vice president in charge of industrial relations, has been personnel director of Bell & Gossett since 1943, serving before then as bookkeeper, chief accountant, office manager, and general manager of Hoeft & Co. plant, North Chicago, after its acquisition by the parent company.

## G-E Factory Service School To Begin Sept. 13 In 36 U. S., 4 Canadian Locations

BLOOMFIELD, N. J.—The Home Heating & Cooling Dept. of the General Electric Co. has announced a 1954 fall factory service training program which will begin Sept. 13.

The program will deal primarily with servicing of G-E oil-fired boilers and furnaces.

The training school will be held at 36 locations in the United States and in four Canadian cities. The U. S. schools will last two days each and the Canadian schools will take three days.

Each class will be practical in nature and will feature the assembling and tearing down of G-E oil-fired equipment under the guidance of factory instructors. The series will end Nov. 16.

C. M. toe Laer, Home Heating & Cooling Dept. manager of commercial engineering, said an intensive direct-mail campaign will be used to urge independent installers and servicemen to join G-E distributors and dealers at the school.

## Baker Represents Frick In California, Mexico

WAYNESBORO, Pa.—Frick Co. here recently announced the appointment of Baker Engineering Corp., of Los Angeles, as its distributor for air conditioning and refrigerating equipment in the state of California, and the states of Baja California and Sonora, Mexico.

In addition to its Los Angeles office, Baker Engineering Corp. maintains offices in San Francisco and San Pedro, and warehouse facilities in Oakland.

Officers of the corporation are C. E. Hollingsworth, president; V. E. Kauffman and T. H. Shonfeld, vice presidents; and Neal S. Tempkin, secretary-treasurer. F. H. Vann heads the San Francisco office and Ben F. Duncan the San Pedro office.

## D. C. Extends Room Air Conditioner Registration

WASHINGTON, D. C.—According to Frank Stetka, chief electrical inspector, the District of Columbia has extended to Sept. 1 the deadline for registering window air coolers in hotels, tenement and apartment houses, convalescent homes, and rooming and boarding lodges.

Only 3,064 persons registered units by July 12, the first deadline. Local dealers said they sold about 35,000 such air conditioners to District residents, however.

Owners may register, cost-free, if units were installed before May 13. Owners of the coolers put in after May 13 must pay \$1 per window fee. Stetka said registration was aimed at preventing overloaded currents. Failure to register is punishable by fines up to \$300.

## Akron Firm In New Location

AKRON, Ohio—American Heating & Air Conditioning Co. recently opened in a new location, 133 Wooster Ave., according to Harry Schwartz, owner and operator. The firm specializes in cooling, heating, and sheet metal work.

## McGraw Electric Signs

### 10-Yr. Service Agreement

MINNEAPOLIS—Appliance Service Co. here recently announced it has been granted a 10-year agreement with McGraw Electric Co. to provide service on a nationwide basis for all home appliances formerly manufactured by General Mills.

M. C. Yerigan, formerly manager of home appliance service for General Mills' Mechanical Div., will direct operations of the new company. He reported that equipment, facilities, and a large supply of repair parts used by General Mills had been made available to the firm.

Appliance Service Co. plans to utilize the facilities of many General Mills authorized service stations to provide local service to owners and to furnish parts and instruction to other companies asked to repair the former General Mills line.

McGraw Electric Co. recently completed purchase of the home appliance business of General Mills, assuming at that time the responsibility for all future servicing of appliances in use.

## Airtemp Outlines '55

### Plans at 3 Meetings

DAYTON—Sales, distribution, and merchandising programs for 1955 are being outlined by officials of Airtemp Div. of Chrysler Corp. at national field meetings this month in New Orleans, Chicago, and New York City.

Attending the sessions are all Chrysler Airtemp Sales Corp. personnel, including regional managers, district managers, field engineers, and Airtemp Construction field personnel.

"These annual meetings, to acquaint our field staffs with our plans for the forthcoming year, are especially important at this time when programs for '55 can be viewed in the light of today's brightening business picture," stated J. F. Knoff, Airtemp vice president in charge of sales.

"The record levels of earnings and savings, the resurgence of buyer interest, and the fact that new home starts are running well above forecasts, make it imperative that the future be viewed with utmost optimism.

"Looking ahead, we anticipate that commercial and residential air

conditioning equipment will be available in larger quantities in 1955. Most firms will increase their production as well as introduce new or improved products.

Industry reports also indicate that a number of new firms, seeking diversification, will soon enter the air conditioning field. We expect, therefore, a more competitive market but also an expanded market in '55.

"The demand for air conditioning, which continues to mount yearly, will receive additional stimulus from increased advertising and more intensive sales promotion on the part of all manufacturers.

"As proved this season, maximum success will accrue to the individual salesman, distributor, or retail dealer who prepares and charts his 12-month selling program as far in advance as possible."

## Cool New 30-Unit Motel

ELMIRA, N. Y.—A 30-unit motel, completely air conditioned, will be erected in Horseheads, it was announced by Thomas Gibbs, owner of the Travelers Motor Inn. Cost of the initial structure is estimated at \$150,000. It will include a restaurant.

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Table 3—Growth Comparison

(All Air Conditioning and Related Equipment, Except Room Air Conditioners, as Compared to Room Air Conditioners, at Estimated, Installed Retail Value.)

All A.C. and Related Equipment  
Except Room A.C.

Room Air Conditioners  
(Console and Window)

Year	Retail Value Dollars	Increase		Increase	
		Previous Year	Over 1947	Previous Year	Over 1947
1947	\$ 721,000,000	—	—	\$ 19,734,000	—
1948	619,000,000	—14.1%	—14.1%	32,512,000	+ 65.0%
1949	514,000,000	—17.0%	—28.8%	39,155,000	+ 20.4%
1950	781,000,000	+ 52.0%	+ 6.3%	72,150,000	+ 84.0%
1951	862,000,000	+ 10.3%	+ 19.5%	88,687,000	+ 23.0%
1952	924,000,000	+ 7.2%	+ 28.2%	141,758,000	+ 60.0%
1953	1,381,000,000	+ 49.4%	+ 92.0%	380,000,000	+ 167.0%
					+ 1,830%

Note: The above retail sales values are based on data from the Bureau of the Census and Air-Conditioning and Refrigerating Institute, as converted into retail figures by Herbert L. Laube, in the case of "All A.C. and Related Equipment except Room A.C." and in the case of Room Air Conditioners for 1953. Room Air Conditioner figures for 1947-1952 are from February, 1954 "Electrical Merchandising."

## Growth of Room Unit Industry--

(Continued from preceding page)

of the units of five years ago; deluxe units with thermostats and two-speed fans and even electric timers and 'Air-Flo Freshners' using chlorophyll; and, finally, the super deluxe jobs that provide 'tween season warmth by means of resistance heaters or reverse

cycle, as well as cooling and all the other functions of air conditioning.

The window units of five years ago were designed for a fixed position in a double hung window. Now we have units that may be positioned in or out of the window, as desired, and that are well suited

for through-the-wall installation. We also have an interesting assortment of special designs, intended to solve 'the casement window problem.'

"While these innovations in design have added nothing to the size of our industry's potential market, they certainly have made that market more readily accessible. And so has the acceptance by hotels, apartment houses, and office buildings of multiple installations of individual units—an acceptance that will continue to grow at an accelerating rate. In short, our market comprises many more than those who dwell in the 41,000,000 wired homes (out of a total of 43,000,000) which now have no air conditioning at all.

"And, since 1949, our industry has continued to protect the interests of its present and prospective customers. Never before has so much summer comfort been so readily available to so many people in return for so few days' pay," he emphasized.

### Upward Trend To Continue

"Perhaps it is a normal attribute of adolescence, and our parents felt the same way about us, while we were in that state. But this I know: There is today no other industry in which the long range trends are more predictable and the month-to-month short range expectations more obscure, than in ours. One manufacturer has forecast the production of 3 million

units next year, and 12 million in 1960. Another says that in 1960 year-round residential air conditioning will be the largest segment of the entire cooling industry and that only 2,300,000 room units will be sold that year. My own best five-year guess appears in Table 2. None of us will be correct, except in one respect—the trend is up and will continue to be up, for years to come!" Laube asserted.

"That's the trend as to volume. Pricewise and costwise, I expect a downturn, but only slightly down. And this may well reverse itself as the public becomes more discriminating in its air conditioning tastes.

### Makers Will Diminish In Number

"We can reasonably expect that today's 100 or more brand names and 50-odd makers will diminish in number. This trend could easily become apparent next year.

"Commercially, our tremendous potential market must become increasingly available to our sales people, through higher wiring standards for new buildings, rewiring of those that already exist, and, particularly, through better adaptability of our air conditioners to new and existing multi-room structures of all kinds, especially houses, apartments, hotels, and office buildings.

"The more adaptable we engineers can make them, the more quickly will existing hotels, apartments, and office buildings swing over to the use of multiple installations of room air conditioners, in preference to the more cumbersome, more costly equipment that is their only alternative.

"In short, we are at the threshold of a great variation in the dimensions and forms in which room air conditioners will henceforth be 'packaged,'" he declared.

"In the ingot or billet form the present cost per cubic foot of the metals used most in room air conditioners is \$15 for steel, \$35 for aluminum, and \$167 for copper. This relationship will be responsible for the continuing trend toward greater use of aluminum and units somewhat lighter in weight for a given cooling power.

### Standardization Predicted

"A trend toward increased dimensional standardization is likewise to be expected, especially standardization of the dimensions and mountings of fan motors and compressors. The standardization of over-all dimensions of complete units is also to be expected, as the advantages of through-the-wall installation become increasingly apparent. Architects and builders can then leave standard openings for units in which more than one make can readily be installed.

"As to its refrigerating mechanism, I foresee no startling or revo-

lutionary developments in the field of room air conditioners, but rather constant improvement of all elements, as today's good hermetic compressors become appreciably better, for our purposes. And, in this connection, absorption, jet, and electronic cooling mechanisms leave me cold!" Laube emphasized.

### About the 'Electronic' Unit

"General Sarnoff, chairman of R.C.A., may be depending for his electronic room air conditioner on that eminent French physicist, Jean Peltier. The rest of us have always relied on Peltier's great contemporary, Nicholas Carnot who, at the age of 28, first described the reversible refrigeration cycle which we all employ today.

"Parenthetically, let me say that I have recently been checking the current status of the Peltier effect—the only one that's generally known to be applicable to an electronic air conditioner and which produces cold by the passage of an electric current through a joint of dissimilar metal. In this connection, I had a personal visit last October with Dr. R. Plank, the authority who heads the Refrigeration Institute of Karlsruhe, Germany, and who is personally familiar with the vast amount of research done in this country on the Peltier effect. This visit strengthened my belief that the coefficient of performance of any air conditioner employing the Peltier effect would be so low as to make it commercially unacceptable.

### Experimenting To Continue

"In the future, as in the past, the practice of experimenting on the public will continue. One isn't sure whether to admire the enthusiastic improvisers for their ingenuity and daring, or condemn them for their irresponsibility. But they do add to our industry's knowledge and progress, even though it's sometimes a little rough on their victims.

"From all of this, I hope you'll understand that for our adolescent major industry I see a future, unlimited. And of this I am convinced, despite the ills of adolescence to which it is not only susceptible—but which it already has, in distressing variety.

"These growing pains, while natural and understandable, are neither inevitable nor incurable. Most can be cured, and the rest alleviated. But before we try to cure our ills, we must know what they are. My diagnosis includes particularly two broad groups: Those self-imposed ills which are created within our industry itself and those ills which are inflicted upon us by outside causes, external to our industry.

"The internal growing pains fall into three groups:

1. **Financial Problems:** The highly seasonal nature of our sales  
(Concluded on next page)



# the "super-dry"

## MONOCHLORODIFLUOROMETHANE

### Reduce Corrosion Problems—Costly Breakdowns

The industry asked for it. Now, in "Genetron" 141, General Chemical provides refrigeration manufacturers, wholesalers and servicemen with really "dry" monochlorodifluoromethane. "Genetron" 141 has a guaranteed moisture content of not more than 10 parts per million . . . and it is so carefully made that it consistently runs well below!

Yes, as a result of General Chemical's manufacturing methods, "Genetron" 141 is truly "super-dry." With it, any user, anywhere, can be sure of getting this important refrigerant the way the industry wants it . . . "bone dry."

Comparison will quickly prove the merits of "Genetron" 141. That's because "Genetron" 141 was especially developed to give you all the benefits of monochlorodifluoromethane without the problems that have been encountered with higher moisture material. And—equally im-

portant—you get all the high quality and superiority of "Genetron" 141 without spending a red cent extra!

For further information on "Genetron" 141, write or wire the nearest General Chemical office listed below. Remember—in refrigerants—the name "Genetron" stands for superior, "super-dry" products—made for today and tomorrow!

#### Color Coded for your Convenience

To distinguish its "super-dry" product, General Chemical has given it the special numerical designation—141.

For your convenience—to speed identification and prevent mistakes in use—container heads and labels are color-coded with the familiar pale green that indicates monochlorodifluoromethane everywhere in the industry.



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## Growth of Room Air Conditioner Industry--

(Concluded from preceding page)

curve imposes obvious financial problems all along the line—on the manufacturer, the distributor, the dealers and even the ultimate user, who can think of a lot of other uses for his money besides making monthly payments on a room air conditioner during those particular months when, in his opinion, it does him no good.

**2. Commercial Problems:** This, it seems to me, is the area in which our industry insists on hurting itself the most. We build production capacity which exceeds our ability to sell; we emphasize hot weather comfort when the biggest things we have to offer are in the area of health and increased personal productivity.

"Our pitchmen spell-bind themselves and their audiences with the most exaggerated sales claims that have ever been heard for any product except Snake Oil; the integrity of the current retail advertisements has dropped so low that they have deservedly been getting the attention of the Better Business Bureaus of Dallas, New York City, and elsewhere. But this isn't all: price cutting begins before the season does and, instead of ending when the hot selling weather arrives, simply becomes even more merciless. And while we bemoan the highly seasonal nature of our sales curve, with 2% of our

annual output sold in December and January and 60% in June and July, we badger our design engineers and our tool makers and factory men into bringing out 'an entirely new line' every season, which is the best method yet devised for making a highly seasonal business even more seasonal.

**3. Problems of a Technical Nature:** The major technical problems which our industry should be able to solve, since they are under its control, are:

"a. Inadequate use of a quick, safe model selector at the retail sales level.

"b. Continued objectionable high noise level, especially for bedroom use.

"c. Difficult installation procedures and lack of weather-tightness which makes it necessary, at least in the north, to remove the unit from the window each fall, and re-install it in the spring.

"d. Failure to meet Air-Conditioning and Refrigeration Institute Room Air Conditioner Design Standards #1-10.

"e. Continued mis-rating of our units in terms of B.t.u., c.f.m., and otherwise. I don't know of a unit that is not over-rated, including my own.

"To this list of self-imposed ills must be added those which beset us from outside of our industry, namely:

### Problems Outside The Industry

#### "1. Political, Legal, and Local Problems:

"a. A discriminatory excise tax situation, in the case of units under 1 hp., as against other major appliances on which this tax was recently reduced from 10% to 5%.

"b. Local ordinances which limit window projection, require installation by locally licensed firms, etc.

"c. Restrictions by building owners which eliminate window units entirely or require 3-phase electric supply for units larger than 1/2 hp., etc.

"d. Classifying as an unfair labor practice requests for the washing of window in which an air conditioner is installed.

"e. Requiring more than one 'trade' completely to install a unit.

"f. Unfavorable publicity resulting from law suits inspired by the outdoor noise level of window units.

**2. Electrical Problems:** While some electrical problems of the past have been solved, new ones have come into being at an accelerated rate. Cumulatively, they will probably have the effect of temporarily retarding sales of room air conditioners because of higher costs, as follows:

"a. The new requirements that power factors be upped and current input reduced increases the cost of the compressor and fan



LENA GOMEZ was recently elected Miss Air Conditioning of 1954 in a contest sponsored by Unarco in conjunction with promotion of its mobile water-cooled unit. Miss Gomez was Miss Cuba in 1953 but now lives in Manhattan. Jay Saltzman, who has been public relations man for the Miss America Contest at Atlantic City for 15 years, presents Miss Gomez with a check for \$500.

motor, and thus of the entire unit.

"b. Increasingly inadequate electric supplies at points of use; more severe requirements on the part of the Underwriters Laboratories; incipient reclassification of our units by the National Electric Code committee as a result of which they will have to satisfy the requirements of fixed rather than portable electrical equipment; and more effective enforcement of power company rules will, on the average, raise installation costs.

"Most of the many growing pains, I've tried to isolate and identify—some 15 out of a total of 23—plus some lesser ones I've skipped, are of primary importance to those of us who are concerned with engineering.

"Engineers concerned with factory production can still further reduce their 'cripples'; can get their refrigeration circuits cleaner, dryer, and tighter, for less field service, can provide better balance of moving parts, for quieter operation, can increase the percentage of units that deliver their full capacity—and do it all, at even lower costs.

#### Simple Model Selector

"Application engineers can set aside their relentless B.t.u. chasing for long enough to devise model selectors so simple and easy to understand that salesmen will use them; so safe that a unit so selected will always encourage a repeat order!

"But the doctor who must cure most of our growing pains is the design engineer. It is he who must

make our units adaptable to the needs of all prospects, it is he who must meet the requirements of ordinances, codes, and utilities, it is he—always a dealer in facts—who can and must take the first step toward restoring integrity to our published ratings by making sure that the figures he gives his management can and will be met in production.

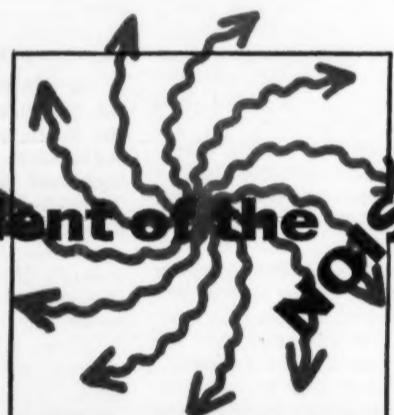
"And no matter how good he is, he can't do it all alone. The engineers of his outside suppliers or associated divisions must help. All he wants from them is a quieter, more efficient fan motor that never needs oil, more efficient, more compact heat transfer surface with less resistance to air flow, a more compact, lighter, noiseless compressor, with 90% power factor and built-in capacity control, and slotted blades or something else that will give him a really noiseless fan. He wants these things and many more. He wants them now and he wants them at a lower price than what his company is paying today. And, strangely enough, he'll get them—in time!

#### Electrical Problems

"But the design engineers' most immediate and pressing problems are electrical in nature. If our adolescent industry is not to suffer from arrested development they must be promptly solved. That is why your committee is devoting this conference to things electrical.

"So here you have it—the actual *past*, the unlimited *future*, the exciting *present* of our adolescent major industry."

## the incident of the heaters



### Another air-moving problem solved at AIR CENTER, U. S. A.

One manufacturer's line of five unit heaters was submitted to Torrington. Of varying capacity, they all had the same defect: noise levels as high as 61 decibels. Torrington engineers quickly found that a simple change in the air impeller specifications greatly reduced the noise level in all cases. There was no change in the power requirement, and air delivery was actually increased—as much as 53 CFM in one unit. At the same time, Torrington engineers were able to suggest means whereby several costly parts could be eliminated from the structural design.

Put Torrington to work on your air-moving problems. Torrington's experienced engineers and Torrington's complete research facilities are ready, without any obligation, to help you gain increased unit efficiency—speeded production—and reduced costs.

### TORRINGTON AIR IMPELLERS

- high efficiency
- uniformity of product
- sturdy construction
- wide application
- quiet operation
- technical assistance
- flexible deliveries
- merchandising support



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Just send us a list of your key salesmen and servicemen who should keep fully informed on news of the industry—we'll mail the NEWS to each man so he can obtain maximum benefit from it, clip or mark articles that can mean profit for you.

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10 to 19 subscriptions	\$4.50 each
20 to 49 subscriptions	\$4.00 each
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**REMEMBER**—if a serviceman saves one hour if a salesman makes one extra sale if an employee saves one production step—  
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## Cold Cache Food Lockers Get National Distribution

TACOMA, Wash.—Room-Temp Lockers, Inc., which has been selling its "Cold Cache" warm-room food lockers in the western states since 1951, has announced that it is now entering into national distribution of the units.

The Cold Cache idea is to "freeze the food and not the customer," by permitting the lockers to be installed in a food market or other normal temperature location.

The individual lockers range in capacity from 6 to 10 cu. ft. One unit of 10 lockers is reached behind an insulated door. A group of 100 lockers of 6-cu. ft. capacity occupy a space measuring about 6 ft. wide, 8 ft. high, and 25 ft. long.

Lockers are lined with aluminum and the basic storage units are finished on the exterior with a flint-hard, glass-smooth, plastic faced plywood. Temperatures are controlled within a range of 2° F., while air conditioning filters out all odors for protection of the food.

The company says that the lockers can be installed in any convenient place inside a market and no special buildings or major remodeling is required. Present installations range from 100 to several hundred lockers.

## Marshall Field To Finish Cooling Downtown Store

CHICAGO—At a cost of more than 1 1/4 million dollars, Marshall Field & Co. will complete the air conditioning of all customer areas of the downtown store, bringing the company's total investment in air conditioning for that store to more than 6 million dollars.

Equipment to be installed in the next year will complete air conditioning on the store's third and seventh floors and serve the entire eighth and ninth floors. In the Store for Men the project will include the fourth and fifth floors.

It was also announced that the company's three contemplated stores at Old Orchard shopping center in Skokie, in Wauwatosa, Wis., and Park Forest will be fully air conditioned.

## Deepfreeze Names Arendt Chicago Zone Manager

N. CHICAGO, Ill.—The appointment of E. J. (Erv) Arendt as Chicago zone manager for Deepfreeze Appliance Div., Motor Products Corp., has been announced by L. R. Walker, manager of field sales.

Arendt's territory will include Chicago, Milwaukee, Indianapolis, Fort Wayne, and Louisville.

With 12 years' sales experience in the appliance field, Arendt formerly was a manufacturer's representative for the Sunray Stove Co.

## Contractor Ad Promotes 9-Point Service Plan

BUFFALO—Batt Co., Inc., air conditioning contractor, promoted its service with an institutional advertisement built around the theme: "Before You Buy—Know Your Dealer."

The firm featured nine points in its service program:

1. We engineer each job.
2. We have our own experienced mechanics.
3. We have our own sheet metal shop.
4. We custom-make all our ductwork.
5. We use only the best materials.
6. We guarantee each installation.
7. Sixty years of serving the Niagara Frontier.
8. All our equipment approved.
9. Satisfaction guaranteed.

refrigeration requirements. Carrier also supplied similar cooling machinery for the Navy's first two supercarriers, the U.S.S. *Saratoga* and U.S.S. *Forrestal*.

Total cooling capacity of the machines is equivalent to the melting of 2,100,000 lbs. of ice during a 24-hour period. This amount is a little more than that which was required to maintain comfortable temperatures in Chicago's Convention Hall during the 1952 political conventions, it was noted.

Known currently as CVA-61, the new carrier will have the same angled landing deck and flight operating arrangements incorporated in the *Forrestal*. One of the world's three largest fighting ships, it is currently under construction at Newport News, Va., at a cost of about \$117,750,000.

## Giant 'Brain' Gets Electronic Reminder of Need for Cooling

JOHNSVILLE, Pa.—The heat-wave season has a pair of robot-like devices working overtime here to protect the Navy's giant \$2 million electronic "Brain" from the ravages of Mother Nature.

The weather-sensitive units are harnessed to monitor the temperature and humidity in the air conditioned chamber housing the huge computer known as the "Typhoon," currently used in making three-dimensional flight studies.

Lt.-Cmdr. Benjamin F. Emge, Jr. of the U. S. Naval Air Development Center here reported recently that the "Typhoon" has a human-like susceptibility to heat and humidity. The slightest change, he says, will throw calculations off.

To guard against this, electronic recording instruments developed by Minneapolis-Honeywell (Philadelphia) has been thrown into the breach. These robot devices stand watch over the "Brain" around the clock. If temperatures or humidity rise too high, they record the danger and sound the alarm. Then mere humans take steps to cool off the "Brain."

## Plante's Opens

ELMIRA, N. Y.—Plante's Refrigerators has been opened on Route 17E.

## Cincinnati Air Conditioning Moves to 1415 Walnut St.

CINCINNATI—The Cincinnati Air Conditioning Co., local Carrier distributor, has recently moved to new quarters at 1415 Walnut St. here. The firm, headed by Arthur Radke, was formerly located at 224 E. Sixth St.

The firm now occupies a two-story office building with separate service and parts departments. More than 10,000 sq. ft. of storage is used in another warehouse.

## Carrier Will Cool 'Super' Carrier

SYRACUSE, N. Y.—Receipt of the air conditioning contract for the U. S. Navy's third "super" aircraft carrier was announced recently by Carrier Corp.

Seven centrifugal refrigerating machines will be installed on the as yet unnamed supercarrier to handle all air conditioning and

## Sebree-Huff Represents Unarco In Albuquerque

ALBUQUERQUE, N. M.—The Sebree-Huff Equipment Co. here has been appointed sales representative for "Unarco" heating and air conditioning units in northern New Mexico, it was announced by Union Asbestos & Rubber Co. of Chicago.

George M. Sebree first organized his own company in Albuquerque in 1946. Early this year he formed a partnership with James M. Huff who had been branch manager here for the Western Air and Refrigeration Corp.

30  
is old stuff in  
refrigeration  
thanks to

# Detroit Double Duty Valves!

Here are three D's to keep in mind whenever you buy expansion valves—Detroit Double Duty Valves! Yes, Detroit expansion valves give you double-duty or dual purpose performance because they're designed for either high or low temperature applications. Take a look at the illustrated superheat curves of Detroit 777 and 673 expansion valves and note that both high and low temperature valves give the same excellent performance in the low temperature range. This can be a real time saver to you in an emergency. Specify Detroit Double Duty Expansion Valves!

**NOTE:** High temperature valve used for low temperature work may require that the suction line be throttled during pull-down.

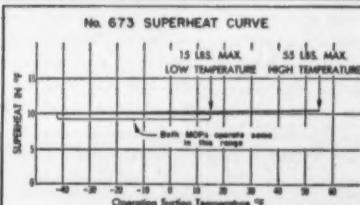
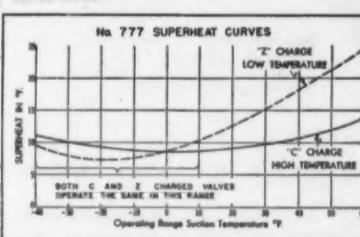
### No. 777

- Capacities—1/8 to 2 tons Freon-12—Standard Valve; 1 to 3 tons Freon-12—External Equalizer.
- "C" and "Z" cross charges available.
- Accessible and easy superheat adjustment.
- Available with or without external equalizer.



### No. 673

- Capacities—1.2 to 3.6 tons Freon-12.
- Adjustable superheat.
- Gas charged for motor overload protection and quick response.
- Duraflex bellows resist corrosion and insure long, trouble-free service.



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### Three Jills and a Chilled Drink in D. C.

CAPITAL-izing on the appeal of a cool drink on the hottest day of summer in Washington, the Servel appliance distributor there, Samson Distributors, Inc., rigged out this pony-cartful of models giving out icewater to passersby. Signs identified the distinctive ice-circles produced by Servel's "automatic ice-maker" refrigerator. The event made picture news both locally and nationally, including network TV.

### Dealer Arrested Second Time for Sunday Selling

### Freezer Floor Plan To Aid Salesmen on Home Calls

MINEOLA, L. I., N. Y.—Arrested for the second time on the charge of violating the local Sunday closing law by selling hardware on the Sabbath, Jack Shifron, proprietor of the Belmore Feed Store in Belmore, has pleaded innocent to the charge. Shifron was convicted on his first arrest after a jury decided that his store was not a farmer's market, one type of business allowed to stay open.

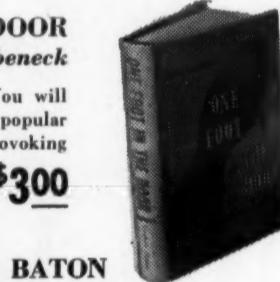
AMANA, Iowa—Amana Refrigeration, Inc. has introduced a color floor plan of its new Stor-Mor freezers, designed to aid salesmen on home calls.

The plan, which includes complete measurements of the 12, 15, and 19-cu. ft. Amana upright freezers, enables salesmen to quickly determine the exact floor space to be occupied by the freezer. Floor plans are being made for dealers.

## HOW TO SELL YOUR SALESMEN ON SELLING . . .

### ONE FOOT IN THE DOOR by George F. Taubeneck

The first humorous book on merchandising. You will laugh—learn—profit while you relax with this popular book for businessmen. 400 entertaining, laugh-provoking pages. Immensely enjoyable, as thousands of readers will testify. A best-selling book . . .



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### THE MARSHAL'S BATON by George F. Taubeneck

Here is another important book by George F. Taubeneck—an "advanced course" in sales management as a follow-up to his immensely popular *One Foot in the Door*. The distilled wisdom of 29 of America's top sales-minded executives. Received enthusiastically by industrial executives everywhere—a valuable addition to every businessman's library. 600 big pages . . .

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The greatest book on appliance merchandising ever written. Written in brisk, interesting style . . . with a wealth of "case histories" showing you HOW—a Chicago Dealer secures prospects for pennies each—25% of the salesmen of a large appliance house sell 75% of the electric ranges—a 65-year-old firm sells 400 refrigerators a year without an outside salesman—to build a profitable service business simply managed . . . and many, many more solid, tested, and proven ideas to help you sell more goods more profitably. Over 600 pages crammed with sales and management ideas you can use TODAY! . . .

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### Contest Sells 650 Freezers In Va. Distributor's Area

RICHMOND, Va.—More than 650 Amana freezers were sold by food plan dealers here during a two-month contest conducted recently by Old Dominion Distributors, Inc., to boost freezer-food plan sales in this area.

Eleven dealer salesmen, who compiled the best sales records during the period, were awarded freezers as prizes by Old Dominion, Amana distributor. Dealer salesmen who won one 25-cu. ft. upright freezer, three 19's, three 15's, three 12's, and one 8-cu. ft. chest freezer were:

Lyle Marks of Corner Hardware Co., Waynesboro, Va.; J. L. Reid and E. L. Cowger of Harry Haga Co., Lynchburg, Va.; Porter Rutherford of Mills Food Plan, Bluefield, West Va.; C. T. Williams of Dowdy Amana Food Plan, Lynchburg, Va.; E. B. Parson, H. D. Mann, and Seth Pope, Jr., all of Acme Frozen Foods, Inc., Richmond, Va.; T. A. Tirrell and John Bowry, Jr. of the Amana Food Plan of Charlottesville, Va.; and R. B. Chenault of the Amana Food Plan of Roanoke, Va.

The contest was launched at the firm's spring sales meeting, at which time its purchase of the Magnolia Locker Plant was celebrated. The locker plant serves as the food source for Old Dominion's food-plan dealers.

## SPECIALTY SELLING METHODS

### Plan Book Tells Hotpoint Dealers How To Perk Up Range Sales with 'Pancake Party'

CHICAGO—A new low cost promotion to help dealers increase electric range sales and build store traffic as well as prospect lists is featured in a new group of merchandising sales aids for Hotpoint dealers.

In making the announcement of the new merchandising sales materials, Clifford C. Gramer, merchandising manager, Hotpoint Co., said the new "Pancake Party" plan book is one of the most flexible plan books ever devised by Hotpoint's merchandising and sales promotion staff.

The plan book is flexible because for a few dollars or a few hundred dollars, depending upon what extent the dealer goes into the promotion, he can build sales and sell ranges. Hotpoint estimates that for about \$4 he can have a pancake party, on a small scale.

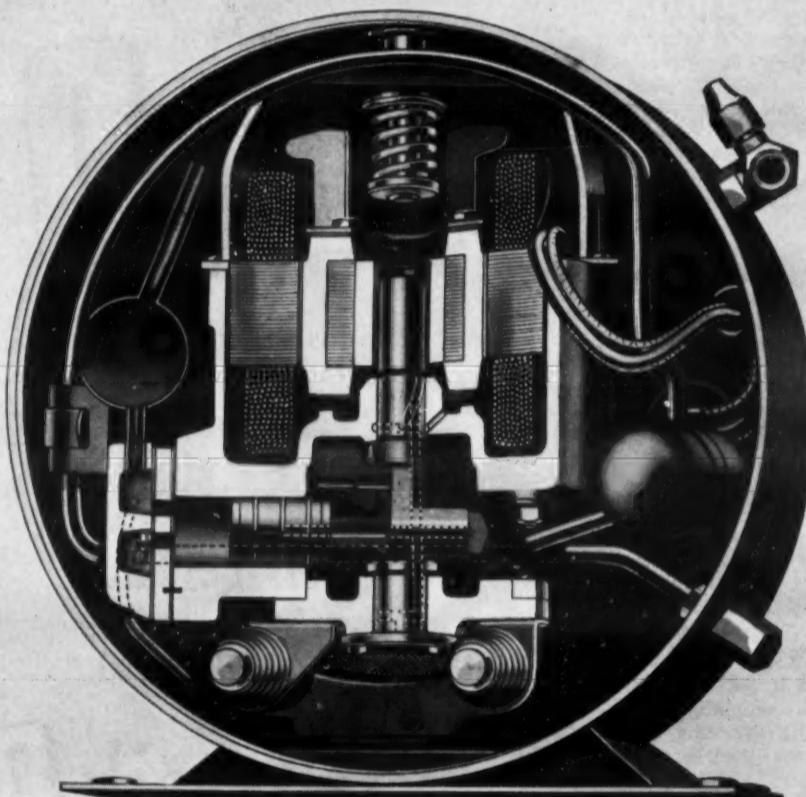
The Pancake Party plan book tells dealers how to set up the complete party for quick use using 1954 Hotpoint electric range features; how to promote and demonstrate the features of ranges, and how to follow up sales leads.

The booklet also shows various sales promotional and merchandising materials such as artificial food displays to dress up his floor models, two background electric range displays, and the peg-board display recently introduced to dealers.

Use of four different useful sets of premiums such as oven basket sets, aluminum pot sets, bakeware sets, and bake and serve sets are shown in an effort to add attraction to any promotion the dealer decides to use.

A series of four new postcards, reminding appliance owners that the dealer is a qualified service representative and is interested in servicing the customer's appliances, can be used by dealers and mailed to customer lists.

Gramer also announced a new booklet which depicts the advantages of electricity over gas. The 20-page, two-colored booklet takes a prospective appliance customer step by step through the facts of electricity versus gas indicating that electricity is more economical, more efficient, and cleaner.



Kelvinator refrigeration systems assure dependable performance of bottle coolers manufactured by a large vending-machine company. Above, cross-section view of internally mounted compressor used in these bottle coolers. Bundyweld helps keep these units trouble-free.



## Behind the reliability of Kelvinator units— Bundyweld Tubing

### WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of copper-coated steel. Then it's . . .



continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Copper coating fuses with steel. Result . . .



Bundyweld, double-walled and brazed through 360° of wall contact.



SIZES UP TO  $\frac{5}{8}$  O.D.

NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead and less chance for any leakage.



## HOME & FARM FREEZERS



### Combination Unit Has Refrigerator, Freezer Space Vertically Side by Side

PORLAND, Ore.—Rhodes Refrigeration Co. here, a division of H. C. Rhodes Bakery Equipment Co., is now marketing a new two-door freezer-refrigerator combination in which the two sections are located side by side in a vertical arrangement.

Called the "Zero Freez 2-Temps," the kitchen appliance consists of a full-length, 12-cu. ft. freezer on the left and an automatic, 8-cu. ft. refrigerator on the right. It is powered by a 1/4-hp. hermetically-sealed Tecumseh unit using "Freon-22" and housed in a compartment beneath the refrigerator section.

Temperature range of the freezer is given as 5° F. to -20° F. and that of the refrigerator as 34° F. to 42° F.

Outside dimensions, including hardware, of this "all-aluminum, rustproof box" are: Height, 67 1/2 in.; width, 38 1/8 in.; depth 32 1/8 in. Inside dimensions are: Freezer—

height, 58 1/2 in.; width, 16 1/2 in.; depth, 22 in.; refrigerator—height, 47 1/4 in.; width, 13 3/8 in.; depth, 22 in. Weight is approximately 340 lbs.

Exterior of the unit is "DuPont Dulux" baked enamel finish on Bonderized aluminum. The refrigerator has a DuPont Dulux baked enamel interior and the freezer an embossed aluminum interior.

Among features of the refrigerator, according to the company, are a "non-restricted refrigeration system with no more mechanical parts than a standard freezer, complete frost free operation of the refrigeration evaporator, and good humidity control by putting moisture back in the air on each defrost cycle."

In addition, it was pointed out, the refrigerator is equipped with a sealed crisper, beverage shelf that can hold 5 gals. of milk, slide-out shelves, and interior light. It

has a "color matched" interior.

Automatic defrosting takes place every 24 hours or defrosting can be done whenever desired, the manufacturer stated. Defrost water is transformed to ice "to insure odor free refrigeration," the company said.

In the freezer, there are refrigeration coils in each of the four shelves, plus top and bottom. Ten freezing surfaces are provided, it was noted, "due to coils being placed between two freezing shelves. This method makes for more efficient freezing, easier cleaning, and protects all freezing coils in shelf from damage."

Other features of this section in-

clude a two-way control—fast freeze and storage; an ice tray compartment with two trays, each containing 12 individual plastic ice cube cups that may also be used for frozen dessert; high density "Fiberglas" insulation; and key-lock door handle.

It has storage space for approximately 375 lbs. of frozen food.

The 2-Temps is listed by Underwriters' Laboratories, Inc. and the Canadian Standards Association. It carries a life-time guarantee against rust on all aluminum materials, a one-year warranty on the complete cabinet, and an additional four-year replacement contract on the unit.

At present, Rhodes Refrigeration is shipping to the Hawaiian Islands, Canada, and as far south as Texas and Colorado, according to R. J. Rader, general manager.

### Amana Appoints Dawson District Sales Manager

AMANA, Iowa—Amana Refrigeration, Inc. has announced the appointment of James R. Dawson as district sales manager for the firm's northeastern territory.

He will assist C. T. Redding, northeastern regional sales manager. Dawson, who lives in Rutland, Vt., will work with Amana distributors in New England, New York, and eastern Canada.

Before joining Amana, he was appliance sales manager for Central Vermont Public Service Corp. and prior to that time was sales representative in northern New England for A. E. Borden Co. of Boston, Mass.



### Revco Names Distributors In Oregon, Wash., Illinois

DEERFIELD, Mich.—Three new distributors have been appointed to sell and service the complete line of Revco food freezer products, according to Harold Overmyer, director of sales.

Crider Sales of Portland, Ore., will cover the entire state of Oregon.

Washington distribution will be handled by Modern Heating & Supply of Seattle under direction of William Dunlap, sales manager.

Covering 19 counties in western Illinois will be Graybar Electric Co., Inc. of Springfield. This Graybar operation is in charge of A. Rutherford.

### Ben-Hur Adds Distributors In N. Carolina, W. Virginia

MILWAUKEE—R. C. Graves, sales manager of Ben-Hur Mfg. Co., announced the recent appointment of two new distributors to represent Ben-Hur Freezers.

Southern Radio Corp., Charlotte, N. C., has been appointed to handle Ben-Hur Freezer sales in North Carolina and portions of South Carolina.

The Emmons-Hawkins Hardware Co., Huntington, W. Va., has just taken over representation of the Ben-Hur Freezer line in West Virginia, eastern Kentucky, and southeastern Ohio.

### Hannon Plans To Broaden Manitowoc Distribution

MANITOWOC, Wis.—Thomas F. Hannon, recently appointed general sales manager of the Manitowoc Equipment Works here, announced that he will place emphasis on broadening the distribution of Manitowoc's home freezer.

In addition to private label manufacturing, the company produces a freezer under its own label.

Hannon came to Manitowoc from Ryan Refrigeration Co. where he was vice president and general manager, to succeed Erle S. Brown, who resigned to relocate in the south or southwest.

### This Takes Research? Freezer Uses More KWH In July Than In December

BATON ROUGE, La.—In Arkansas, a home freezer uses an average of 99 kwh of electricity in July as compared with only 51 kwh in December, a report issued by the Louisiana State University Agricultural Extension Service said recently.

The information, gained from a study by the Arkansas agricultural experiment station, indicated that the increased use of electricity in July was not only due to the hotter weather but also to the large quantities of produce frozen at that time.

Another study at the Indiana experiment station, the LSU report said, showed that freezers located in heated rooms used more electricity than those installed in unheated basements, garages, or porches.

The Indiana study failed to find any difference in electricity consumption due to age of the freezer. The study indicates that present types of freezers hold their efficiency well and can be expected to give reliable service with only periodic inspections by qualified servicemen.

### Wedding Cake Thawed To Mark Anniversary

COLUMBUS, Ohio—The home freezer has made possible a new way to mark wedding anniversaries (the first few, anyway): Eating some of the wedding cake.

When much of the cake was left after the wedding reception a year ago for Mr. and Mrs. William Pritchard, the latter's mother wrapped it in wax paper and put it in her freezer.

The cake was recently thawed for the Pritchard's first anniversary, and everybody had some of it. Commented Mrs. Pritchard: "It was a lot better than it was the first time we ate it . . . We'll keep this thing going just as long as the cake holds out."

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Turn to "What's New" Page for useful information on new products. Use Key No. for fastest service.

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#### REFRIGERATION PARTS and Supplies plus

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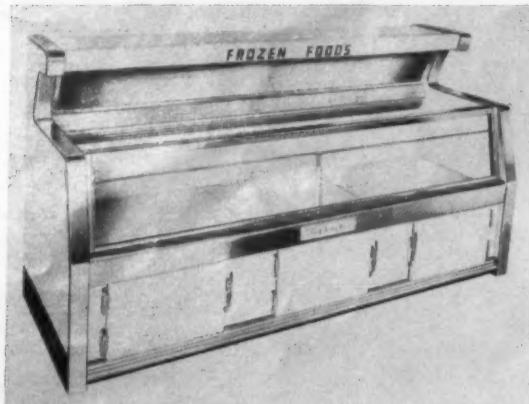
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Bundy Tubing Distributors and Representatives: Bridgeport, Conn.; Karmel Steel & Aluminum Co., 117 E. Washington St., Cambridge, Mass.; Austin-Hastings Co., Inc., 226 Binney St., Chelmsford, Mass.; Peirson-Deekins Co., 823-824 Chattanooga Bank Bldg., Chicago 32, Ill.; Lapham-Hickey Co., 3333 W. 47th Place, Elizabeth, New Jersey; A. B. Murray Co., Inc., Post Office Box 476, Los Angeles 58, Calif.; Tubersoles, 5400 Alton Ave., Philadelphia 3, Penn.; Rutan & Co., 1717 Sansom St., San Francisco 10, Calif.; Pacific Metals Co., Ltd., 3100 19th St., Seattle 4, Wash.; Eagle Metals Co., 4755 First Ave., South, Toronto 5, Ontario, Canada; Alloy Metal Sales, Ltd., 181 Fleet St., East

Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

## Commercial Refrigeration



NEW TYLER double-duty open frozen food and ice cream case with front storage compartment and mirrored superstructure has top which doubles as an extra display shelf. Models are available for single unit or continuous installation; self-contained or remote; double-duty or top display; with or without superstructure.

### New Tyler Cases Offer Flexibility, Fully Automatic Defrost, 'High Level' Refrigeration

NILES, Mich.—Flexibility keynotes the freshly-styled line of open frozen food and ice cream cases which has been introduced by Tyler Refrigeration Corp., the company announced recently.

Designed for open display and fast self-service sale of frozen food, ice cream, and frozen baked goods, the new cases offer extra deep, hermetically-sealed front

glass with stainless steel trim, large capacity, and choice of self-contained, remote, and other models, the company said.

Tyler "High Level" refrigeration and fully automatic defrost are other features.

These one-piece, welded-steel shell cases are available in full 6, 8, or 12-ft. display lengths, with case ends added for single unit or

continuous installation. Fronts slope gently in, tending to "pull" the shopper to the frozen food display, it was pointed out.

A broad range of 16 models meets all store requirements, includes a choice of self-contained or remote installations; top display only, or double-duty models with storage compartments; and models with or without superstructure.

Mirrored superstructure available for all models serves as an extra display shelf for related or impulse items not requiring refrigeration.

Double-duty models with front storage compartment are serviced by heavy-duty doors, equipped with edge-mounted hardware.

Other features of the new Tyler cases include certified super-density insulation, protective aluminum cart bumper rail, 3-in. universal price tag moulding, and porcelain front. As with all Tyler cases, the equipment is Underwriter approved.

Tyler also makes a complete line of new open "Sales-Cases" for frozen food, meat, produce, and dairy products.

#### Friedrich Appoints Myrle Gunter Manager Of Southeast Region

SAN ANTONIO—Appointment of Myrle Gunter as southeast regional manager of Friedrich Refrigerators, Inc. was announced recently.

Gunter comes to Friedrich with an extensive background in refrigeration business and merchandising experience gained from his association with some of the larger retail food operators.

Prior to coming with Friedrich, Gunter was division manager for one of the major counter equipment companies and has also been associated with several wholesaler groups.

As regional manager of the southeast, his territory will encompass Alabama, Florida, Georgia, North Carolina, South Carolina, and parts of Virginia and Tennessee.

#### Pocket Size Book Tells How To Keep Tight Seal Between Door and Frame

HAGERSTOWN, Md.—How to maintain a tight seal between a cold storage door and frame is outlined by the Jamison Cold Storage Door Co. in a new 16-page, pocket size booklet.

Illustrations and drawings supplement written instructions. Emphasis is on proper use of Jamison's "Wedgetight" fasteners and "Adjustoflex" hinges in maintaining proper tight seal. Two-color booklet tells how to correctly position frames, how to correct erection errors, and how to adjust hardware.



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Ranco Replacement Reference No. 1344 lists almost 5,000 replacement controls . . . the most complete line in the industry. This big new manual can be purchased from your Ranco wholesaler. Get yours now.



### Fulton Fish Market Gets 'New Look'

CALEB HALEY AND CO., packaged fish wholesaler, has brought a "new look" to the famous Fulton Fish Market in New York City. The photograph shows customers admiring the improved appearance and freshness of the Haley product, now being displayed in an Ace refrigerated cabinet. The company reports that the new cabinet has not only attracted the attention of their dealer customers because of its appearance, but has resulted in quicker customer service and less damage to the merchandise.

#### Highly Interesting Future Seen

### Vacuum Cooling Removes Field Heat from Lettuce Rapidly, Economically, ASRE Hears

SEATTLE—"Vacuum cooling [of produce] has not only made its mark but appears to have a highly interesting future," believes Harold P. Hayes, dean of engineering, California State Polytechnic college.

Chief application thus far has been in removing field heat from lettuce, but "excellent possibilities" for other food items exist, he told the American Society of Refrigerating Engineers at its 41st semi-annual meeting here.

"So successful has the process been that shipments of vacuum cooled lettuce have increased from a negligible number in 1948 to the present rate of between 40% and 80% of the lettuce crops in Arizona and California," Hayes said.

He outlined the basic theory as follows:

"If a head of lettuce at a typical field temperature of 60° F. or more is subjected to a vacuum of 29.73 in. Hg, evaporative cooling will take place until an equilibrium temperature of 34° F. is reached. Because of the large ratio of surface area to volume of lettuce, the cooling will take place almost as rapidly as the vacuum is produced [about one carload per hour]."

And only a small amount of water must be evaporated to achieve this cooling effect, he added, pointing out that "because lettuce is over 90% water by weight, the change in moisture content is virtually negligible."

Two methods of vacuum cooling are now in use, Hayes said. Ten plants now in existence use a steam jet system to produce the necessary vacuum. Eleven plants operating or abuilding use a combination of rotary vacuum pump and mechanical refrigeration.

"The vacuum pump operates alone until a vacuum of about 29 in. Hg is reached," he explained. "At this point, a blower and an ammonia circulating pump are placed in operation. The mixture of air and water vapor flows from the tube [vacuum chamber], through the blower, to the refrigerated coil.

"At that point, the water vapor

is condensed out and the air flows to the vacuum pump and is discharged to the atmosphere. The blower serves the purpose of creating turbulence and increasing the effectiveness of the cooling coil."

Vacuum cooling, Hayes also mentioned, has permitted the substitution of cheaper, lighter fiberboard cartons for lettuce instead of the conventional wooden crates, thus permitting one step in packing to be eliminated.

"In addition, the carton-vacuum pack is cleaner, generally more convenient, and utilizes unskilled labor more effectively."

#### Precise Control Stressed For Niagara Blower Unit

NEW YORK CITY—"Precise Control of Air Temperature and Moisture with Niagara Type 'A' Air Conditioner" is the title of a bulletin recently issued by the Niagara Blower Co. here.

Bulletin No. 122 describes and illustrates various types of applications for the unit, with particular emphasis on textile manufacturing operations.

#### Grinnell Corp. To Build Plant Near Newton, N. C.

NEWTON, N. C.—Grinnell Corp. has announced that it plans to build a plant near here which will make air conditioning and moisture control systems for textile mills and other industries.

A spokesman said the industrial humidification systems will be installed by a Grinnell subsidiary, the American Moistening Co.

The Grinnell plant will be on a site it has acquired between nearby Conover and Claremont.

#### Summer Special

TORONTO, Ont., Can.—Lawsons Appliances has installed a new outdoor showroom, hailed as the first in Canada for outdoor selling of appliances.

### RANCO DUAL PRESSURE CONTROL

... safety-guarantee for your air conditioning service

Your customers will appreciate the protection of this Dual Pressure Control . . . and here's why:

High pressure cut-out with non-adjustable high pressure limit stop safeguards the system—prevents service adjustment above the maximum safe operating pressure. Low pressure safety cut-out prevents pulling air into the system with excessive low pressure operation.

In either event, the system shuts down until restarted with the manual reset. Both high and low pressure ranges are independently adjustable.

Add up those features and you'll understand why Underwriters Laboratories requires this type of control on all hermetically sealed air conditioning systems . . . why both you and your customers will consider it well worth the few minutes it takes to install. Make your next job a Ranco Dual Pressure Control installation . . . now available in Types 012-1593, 012-1594 and 012-1595 . . . a safety-guarantee for your air conditioning customers.

**Ranco Inc.**



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WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

standard and custom-built designs  
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## Mrs. America Wants:

**Better Shelves, More Frozen Food Area, Quieter Operation, 'Service-Proof' Unit and Easier Frost Removal, Willie Mae Rogers Says**

SEATTLE—"The industry has been paying too much attention to gadgets and not enough to sound construction," contends Miss Willie Mae Rogers, director of Good Housekeeping Institute.

"Since 1940 engineers have given Mrs. America more storage area, high humidity, sliding shelves, foot pedals, automatic defrosting, and 4,000 gadgets, 3,999 of which are completely impractical," she told the Domestic Refrigerator Engineering Conference held during the 41st semiannual meeting of the American Society of Refrigerating Engineers here.

"You've given her what the sales department wanted, not what the women themselves wanted," Miss Rogers asserted.

"Women want things in a perfected form that operate without headaches. Instead of listening too much to what women say they want, it's up to engineers to build a good product and then to the sales department to sell it."

### Keep Gadgets Practical

"I'm not completely averse to gadgets. There is a place for them. But please keep them practical, make them of good material which is easy to clean, and make them easy to replace."

She reminded the group that there are now 57 million women in the country, that 19½ million work outside the home, and that 10 million of these are married women.

"They are very busy people. This group of working wives is growing larger every year and thus is becoming more important to you. They have to do all the work of the home 'after hours,' as it were."

"Also, you now have to consider the husband as a 'homemaker' more and more. When husbands use appliances more, they may be more demanding and critical, and may create more problems for you," warned Miss Rogers.

"Another important trend is that to casual living. People don't dress up so much now, they don't cook so much, and they don't always cook in the kitchen. This trend is changing food buying habits and will affect appliances," she indicated.

### 79% Do Not Want Color

Interesting results of a "consumer panel report" prepared last year by *Good Housekeeping* were touched upon by Miss Rogers, who said that 79% of the 1,948 people answering the survey declared that they did not want color when they get a new refrigerator (13% did).

"I've a feeling that color may be a decorator's demand," she declared. "Women who know they'll be using a refrigerator for 15 to 20 years realize they may not want a certain color that long."

If manufacturers become convinced that women do want color, "keep it soft and subdued so it will harmonize with different colors," she suggested.

Miss Rogers raised a question as to whether there really was a trend to larger refrigerators.

"Only 18% of those queried in the survey had refrigerators larger than 9 cu. ft., but to the question 'is your refrigerator large enough for your present needs?' 74% answered yes," she revealed.

This survey and other studies, she indicated, caused Miss Rogers to remark, "we have had some grave ills in refrigerators. Temperatures have been too high in evaporators, some automatic defrosting systems aren't satisfac-

tory, some units won't freeze fast enough, and some are too noisy."

She also passed along comments about refrigerators from various home economists and assistants working in the kitchens of Good Housekeeping Institute:

"Something should be done about shelf appearance. Shelves are too hard to clean."

### Higher Humidity

"High humidity compartments are not really high enough in humidity. Food still has to be covered."

"Construction seems to be slipping. Screws keep coming loose in the evaporator."

"Don't carry the 'food filing' idea too far. Housewives vary considerably in their purchases of food and where they want to place the food in the refrigerator."

Commented Miss Rogers: "From and over-all viewpoint, these ills aren't serious, but you can't af-

ford to look at it that way. Each one represents a dissatisfied customer."

"There is little if any selling being done at the retail level today, so it's up to the manufacturer to make the product sell itself."

### Service Situation

"Many times we are forced to agree with the consumer," she continued, "that the handling of appliance service in this country is a disgrace. Service is in a desperate state, but nobody seems concerned about it."

"I believe it might be simpler to build a service-proof refrigerator than to revolutionize the service industry," she averred.

As for the future of the refrigerator, Miss Rogers sees "a continuing need for more frozen food storage space. Women are interested in having more freezer space."

"This brings two problems, however," she cautioned. "The first is

the danger of giving more freezer space but not a low enough temperature. If the temperature isn't low enough to hold frozen foods for two weeks, you're defeating yourselves."

"And if the freezer space is too big, especially with the drop-shelf type of compartment door, the average woman can't reach."

She recalled the comment made by Ross Siragusa, president of Admiral Corp., upon inspecting such a design in the laboratory:

"If we build a door that big, we're going to have to sell only to flat-chested women."

### Vertical Division Suggested For Refrigerator

"The freezer section," Miss Rogers continued, "is often placed at the bottom of the refrigerator because women don't use that section so often. But don't forget that they use it for longer time, and it's no fun squatting or kneeling for five or 10 minutes while looking for, or storing, frozen foods."

"Why not design a refrigerator with a vertical divider so that you'll have a freezer section on one side and normal temperature on the other," she suggested.

"Refrigerators must be quieter in the future," she added. "For some reason many housewives are seemingly not bothered by other noises that occur in the average home but are very sensitive to the noise made by a refrigerator."

"There is also a pronounced

trend today in built-in designs. Built-in ranges, for example, are becoming increasingly popular. But you should move into this field very carefully. Service on a built-in refrigerator would become quite a problem."

"We need an easier way of removing frost from the freezer section although I don't know how you would do it."

"If the product is good," she reminded the engineers at the conference, "the customer is less concerned with shoddy salesmanship and service."

### Engineers Must Have Sales Slant In Thinking

"You engineers have the right and obligation to fight for the integrity of the product. I know it takes real courage to speak up to management and tell them how the product should be made. You must, however, have a sales slant in your thinking."

One person at the conference raised a question for Miss Rogers:

"We're in both the automobile and refrigerator business. Why is it a man will spend \$60 or more on service for an automatic transmission every year without complaint but will complain if he has to buy a new door gasket for a refrigerator after 10 years?"

"That's because," wryly suggested Miss Rogers, "a man buys a new car every two years but expects his wife to keep the same refrigerator for 25 years."



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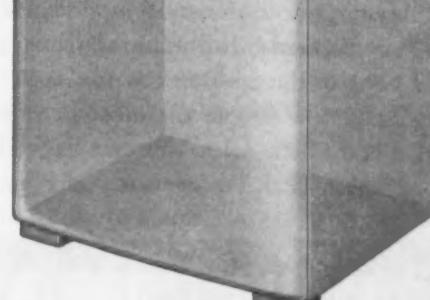
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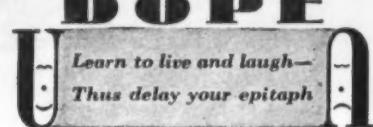
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BOHN ALUMINUM EVAPORATORS provide greater efficiency, more dependable service.

## INSIDE DOPE



By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

A desire of knowledge is the natural feeling of mankind; and every human being whose mind is not debauched will be willing to give all that he has to get knowledge.—SAMUEL JOHNSON.

Fear actually is related to love, as are all passions. Fear is the emotion that rises in us when there is a danger facing something or someone that we love, such as our good name, our children, our fortune. The catalog of fears is the catalog of loves. Love is attraction for an object; fear is flight from it.—BISHOP FULTON J. SHEEN.

### Verses of the Week

A dashing young fellow named Joe  
Has lost all his happy glow;  
He used to be sunny  
And have plenty of money,  
But that was two blondes ago.

Ft. Belvoir Castle

Man of the future, what shall be

The life of Earth that you shall see?  
What strange new facts and years will show?  
What wonders rare your eyes shall know?  
To what new realms of marvel, say, Will conquering science war its way?"

—WILLIAM BENNETT.

### Encouragement

Fame and Fortune,  
Power and Pelf is  
Oddly always  
Someone else's . . .  
While the ifs and buts and maybe's  
Seem our own especial babies.  
Yet for consolation just  
Remember . . . some dope envies us.

—MERRY BROWN.

### Are You a Father?

Approximately 800 high school boys and girls were queried as to their notions of good qualities in a father. That which received the largest vote was "spending time with his children."

Next: "respecting his children's opinions."

Other qualities rated: being an active church member; being a college graduate; "never nagging his children about what they do; making plenty of money; being well dressed; being prominent in social life; having a love of music and poetry; owning a good-looking car."

Popularity of ranch-type (all rooms on a single floor) homes is creating a whole new set of problems.

Miss Goldenlocks, who'd lived in one such all her seven years, attended a birthday party in an older, two-story domicile. Its staircase fascinated her.

"Please, Ma'am," she approached the Lady of the House, "is it all right if I climb them steps? I've never seen an upstairs!"

Discovery cannot be planned, but you can plan the work that will lead to discoveries.—DR. IRVING LANGMUIR.

### How Long Will You Live?

"Youth is not a time of life . . . it is a state of mind. It is not a matter of red cheeks, red lips, and supple knees; it is a temper of the will, a quality of the imagination, a vigor of the emotions; it is a freshness of the deep springs of life.

"Youth means a temperamental predominance of courage over timidity, of the appetite for adventure over a life of ease. This often exists in a man of fifty more than a boy of twenty.

"Nobody grows old by merely living a number of years; people grow old by deserting their ideals. Years may wrinkle the skin, but to give up enthusiasm wrinkles the soul.

"Worry, doubt, self-distrust, fear,

and despair . . . these are the long, long, years that bow the head and turn the growing spirit back to dust.

"Whether seventy or sixteen, there is in every being's heart a love of wonder, the sweet amazement of the stars and star-like things and thoughts, the undaunted challenge of events, the unfailing child-like appetite for what comes next, and the joy in the game of life.

"In the central place of your heart there is a wireless station; so long as it receives messages of beauty, hope, cheer, grandeur, courage, and power from the earth, from men and from the Infinite, so long are you young.

"When the wires are all down and the central places of your heart are covered with the snows of pessimism and the ice of cynicism, then are you grown old indeed and may God have mercy on your soul."—SAMUEL ULLMAN.

### It Pays To Be Lucky

High promise for a big new source of gasoline and lubricants is entailed in experiments with Colorado's "petroleum rock."

Deposits of that stuff out there may contain 15 times as much petrol as our proved national reserves of liquid oil.

And it is predicted that, reasonably soon, oil can be extracted from this "marblestone" commercially (that is, at competitive prices).

Did scientific research reveal the fact that marblestone rocks contain oil? Huh-uh. Like so many other remarkable discoveries, this one was accidental.

Eight miles from Rifle, Colo., a hermit built himself a cabin. Convenient rocks he utilized in erecting his fireplace and chimney. Trustingly he ignited a few sticks of wood in the fireplace which he had cemented from the handy marblestone.

As astonished as you or I would be, if we struck a match on the Empire State building and saw it explode into flames, the hermit ran for his life when his fireplace rocks burned "hotter than the hinges of Hell."

Later, he investigated. Hence: a new industry.

### Laffs from Newspapers

Herewith we present our current collection of newspaper typographical errors and unintentional gaffaws:

"lice in South Joplin in this charming five-room efficiency with picket-fenced backyard."—Joplin (Mo.) *Globe*.

"The bride is in good condition, and should be, residents point out, because it's hardly ever been used."—Wabash (Ind.) *Plain Dealer*.

MAN RECOVERING FROM BRIEF DEATH—Terre Haute Tribune.

It's Buyers Market; Get Your Casket Now.—Los Angeles Daily News.

VIRTUE SETS UP FACTORY IN SANDWICH—Retailing Daily.

Women Consider Thinking.—Richwood (W. Va.) *News Leader*.

### Definitions of the Week

**Philosophy:** The system of being unhappy intelligently.

#### New Dealer:

What the gambling house sends in when players start winning.

#### Comforting Closers

If at first you don't succeed, you're running about average.—M. H. ANDERSON.

The person who knows exactly

how the world should be run would be scared silly if it were turned over to him.—*Grit*.

A small town is the place where a fellow with a black eye doesn't have to explain, they know how it happened already.

An isolationist is a man who is against supporting the rest of the world in the style to which we are accustomed.—P. K. SIDELINER.

An appendix is what you have out before the doctor decides it is your gall bladder.—*Banking*.

## "Stories of the Week"

### In Handy Form



In response to hundreds of requests from AIR CONDITIONING & REFRIGERATION NEWS subscribers, the conductor of its "Inside Dope" column has collected and grouped his best "Stories of the Week." They are now available in convenient book-form for your reading and working pleasure. The book is entitled: "You'll Love This One."

Everyone will enjoy reading this book, we hope, but for the salesman—and for anyone who may be called upon to "say a few words" at a meeting—it should have especial appeal.

Here's why: this book of good stories you can tell is printed on thin paper, bound in flexible leatherette, and designed to fit neatly into your inside coat pocket.

While waiting in an anteroom to see Mr. Bigdome, the sales representative can thumb through it and pick out four or five pertinent jokes which are guaranteed to put his prospect in a good mood.

The man about to make a speech—or one who figures he may be asked to rise and shine extemporaneously—can consult it surreptitiously while the toastmaster is doing his stuff. Although it's jam-packed with grand tales, it isn't bulky. Rather, it's unobtrusive. Looks more like a leather wallet than a book.

You can be the life of the party if you've memorized some of the anecdotes in this book. Everybody loves a good story well told—and all the jokes in this book have been tested on tough audiences, both large and intimate, by the author.

Within its 236 thin-paper pages more than 200 sure-fire laughs are presented. You can use it profitably, and so can your friends. It's handsomely turned out, and will make an appreciated gift anytime.

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CONSECUTIVE  
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FAMOUS **G** VALVE  
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**It is true . . . the record of this famous commercial refrigeration combination dates all the way back to 1934 when Sporlan introduced it to the refrigeration industry. Then, year after year, thousands upon thousands of installations proved their peak performance on every job, every time.**

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**Z** charge  
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for extremely low temperatures

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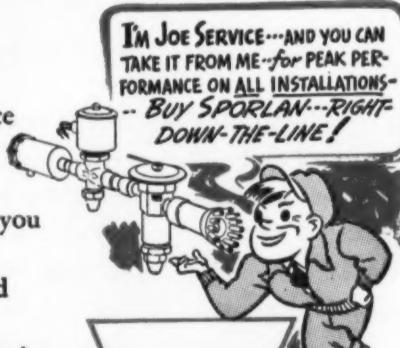
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# STATISTICS

## Air Conditioning Served by Dallas Power & Light Co. Central Systems Only

	Res.	Com.	Ind.	Others	Total
	No. Hp.	No. Hp.	No. Hp.	No. Hp.	No. Hp.
Installed prior to 1940	114	609	444	15,893	28 301 5 204 591 17,007
Installed during 1940	19	132	128	2,257	11 59 3 174 161 2,622
Installed during 1941	19	169	108	1,645	9 2,485 136 4,299
Installed during 1942	5	22	16	1,205	3 17 24 1,244
Installed during 1943	—	—	1	8	1 1 2 9
Installed during 1944	1	9	10	98	— 11 107
Installed during 1945	3	25	37	723	2 1,613 42 2,361
Installed during 1946	25	274	106	3,937	1 32 132 4,243
Installed during 1947	27	274	121	4,293	2 15 150 4,582
Installed during 1948	128	784	248	8,581	9 276 385 9,641
Installed during 1949	125	862	274	11,958	3 82 402 12,902
Installed during 1950	227	1,800	268	8,668	5 161 2 75 502 10,704
Installed during 1951	376	2,915	359	9,316	6 310 1 18 742 12,559
Installed during 1952	625	4,441	390	12,721	14 591 2 116 1,031 17,869
Installed during 1953	896	5,527	415	13,122	20 660 5 786 1,336 20,095
<b>Total as of 12-31-53.</b>	<b>2,590</b>	<b>17,843</b>	<b>2,925</b>	<b>94,425</b>	<b>114 6,003 18 1,873 5,647 120,244</b>
Installed first 3 mos. 1954..	205	1,106	99	2,580	3 3,112 1 44 308 6,842
<b>Total as of 3-31-54..</b>	<b>2,795</b>	<b>18,949</b>	<b>3,024</b>	<b>97,005</b>	<b>117 9,715 19 1,417 5,955 127,086</b>

## Dallas Room Air Conditioner Sales

1946	0
1947	910
1948	2,265
1949	2,715
1950	4,325
1951	9,170
1952	15,508
1953	26,902
1954	*

## Texas Air Conditioning--

(Concluded from Page 1)  
totaled 415 installations in 1953, compared with 390 the previous year.

In Ft. Worth the reported sales of electrically refrigerated room air conditioners, tabulated by the Texas Electric Service Co., went to 4,022 units in 1953, as compared with 3,281 units in 1952. (It is believed that actual sales may be well over twice this figure).

Significant in the 1954 room cooler sales in Ft. Worth was the terrific gain in the 1-hp. size. In the reported sales in 1952, 2,333 units were of the  $\frac{3}{4}$ -hp. size, and 824 were of the 1-hp. size. In 1953, 1,843 were in the  $\frac{3}{4}$ -hp. size, and 2,111 units in the 1-hp. category.

In figures compiled by the Ft. Worth Chamber of Commerce, it is revealed that 364 residential air conditioning systems, representing a total of 1,762 installed tons of refrigeration, were installed in 1953. This compared with 259 systems totaling 1,571 tons in 1952.

Commercial and industrial installations in Ft. Worth in 1953 totaled 247 installations, compared with 236 in 1952.

The Ft. Worth tabulation also reveals how new markets have developed for air conditioning over the year. For example, few churches were air conditioned before 1952, but in 1952 there were 17 such installations, and in 1953, there were 18 churches that installed cooling. Industrial applications also showed a good jump in 1953, with 19 installations totaling 1,813 tons.

The Lone Star Gas Co. furnishes the following figures on air conditioning *tonnages* installed in the city of Dallas only in 1953, and a cumulative total as follows:

1953	Total
Residential .....	759
Commercial .....	114
Industrial .....	0
Total .....	873

3,099 1,286 8,810 13,295

## Air Conditioning Installations City of Fort Worth Only As Reported to the Texas Electric Service Co.

### Reported Sales of Refrigerated-Type Room Air Conditioners

Size	1951	1952	1953
$\frac{1}{2}$ and $\frac{1}{4}$ hp...	96	124	68
$\frac{3}{4}$ hp.....	2,272	2,333	1,843
1 hp. and over	832	824	2,111
<b>Total .....</b>	<b>3,200</b>	<b>3,281</b>	<b>4,022</b>

### Central System Air Conditioning

Year	Residential	Commercial & Industrial
	No. Tons	No. Tons
1948	56	380
1949	58	442
1950	94	534
1951	140	1,279
1952	227	1,431
1953	327	1,619
		263 10,710

### 3-Story Building Going Up In St. Louis for Graybar

ST. LOUIS—Construction is under way on Graybar Electric Co.'s new warehouse and office, a three-story, 90,000-sq. ft. building at Taylor and Clayton Aves. Completion is scheduled for Jan. 1.

According to Gamble Construction Co., which has the contract, the contract price of \$634,000 includes air conditioning, heating, plumbing, electric work, sprinkler and elevator installations, and paving.

Officials said the 20,000 sq. ft. of office space, located mainly on the second floor, will be air conditioned.

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BROADWAY at 55th STREET  
Ideal accommodations  
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Private baths, showers  
and radio, television!  
FROM \$3.50 SINGLE \$5.00 DOUBLE

## Where Central Type Air Conditioning Has Been Installed In Fort Worth

### A Summary of Installations Through 1953 by Place of Installation

	Up to 1947		1948		1949		1950		1951		1952		1953	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons
Residential .....	103	375.80	98	578.0	75	505.5	129	754.5	173	1,120.50	259	1,571.0	364	1,762.0
Apartment Houses .....	—	—	1	30.0	3	60.0	—	—	2	700.0	1	52.5	1	53.0
Offices .....	61	1,028.20	63	990.5	55	1,115.5	51	417.5	81	619.50	74	1,336.0	52	397.0
Office Buildings .....	5	1,270.00	—	—	—	—	4	925.0	13	3,031.00	3	160.0	15	1,718.0
Stores and Sales Floors .....	42	3,033.50	42	643.5	29	489.0	44	292.0	31	407.50	42	436.0	43	474.0
Grocery Stores .....	—	—	—	—	8	190.0	17	347.5	12	320.00	8	142.5	10	237.5
Restaurants .....	19	251.50	12	125.0	25	231.5	21	184.5	20	310.50	26	212.5	28	359.0
Drugstores and Pharmacies .....	6	100.00	9	83.0	7	98.0	14	190.0	6	82.00	7	58.0	6	79.0
Clinics and Doctors' Offices .....	4	63.00	16	103.0	10	54.0	11	48.5	18	139.00	18	166.5	25	180.5
Hospitals .....	2	47.75	3	95.0	4	170.0	5	101.0	2	210.00	2	20.0	2	16.5
Tourist Courts .....	1	5.00	1	5.0	—	—	2	30.0	—	—	2	16.0	2	40.0
Hotels .....	8	883.75	3	855.0	6	283.0	3	22.5	2	165.25	1	4.0	3	460.0
Barber Shops .....	—	—	2	7.0	4	12.0	3	8.0	—	—	2	5.0	1	3.0
Beauty Salons .....	3	20.00	—	—	—	—	5	32.5	3	13.00	7	24.0	5	20.0
Clubs .....	3	118.00	4	193.0	6	157.0	4	40.0	2	1				

## Tough, Flexible Vapor Barrier Claimed To Be 100% Impervious to Moisture

SEATTLE—Development of a vapor barrier which for practical purposes is 100% impervious to moisture yet is tough and flexible was revealed by James G. Macormack, president of Alumiseal Corp., at the 41st semiannual meeting of the American Society of Refrigerating Engineers here.

It consists of aluminum foil .001 in. thick sandwiched between two .0005 in. thickness of "Mylar," a new polyester film developed by DuPont which has two-thirds the tensile strength of steel yet the flexibility of aluminum.

The film is expected to have wide application in many industries, including refrigeration, but Macormack limited his discussion to its possibilities as a vapor barrier when used with aluminum foil.

"Necessity and vital importance of a vapor barrier to the life span of refrigeration insulation are generally recognized and appreciated by our industry," he commented.

"Polyester film is in itself not a moisture vapor barrier inasmuch as its permeability in a 1-mil thickness is approximately 1.5 grams per 100 sq. in. per 24 hours," Macormack explained.

"A 1-mil thickness of aluminum is in itself an excellent barrier in so far as permeability goes, having practically the desired zero range.

However, it is quite fragile, and creasing, folding, or handling quickly fills it with pinholes or cracks that vastly raise its permeability."

By laminating aluminum foil between two thicknesses of the film, Macormack said he had "produced a vapor barrier with the zero range of permeability of the aluminum and with the extremely high strength, toughness, and inertness of the polyester film."

This barrier, he also claims, lends itself readily to "effective practical sealing of joints," which, of course, is vital if the barrier is to be successful. It is commercially available now in rolls 36 in. wide by 200 ft. long and will be available soon in widths up to 60 in.

"Joints are sealed with a special methyl ethyl ketone type adhesive developed for the purpose and supplied with the product. Overlapped joints, with a lap of 1½ to 2 in., are sealed by brushing the adhesive between and over the lapped edges. This sealing of joints is simply a cold application with hand pressure," he explained, adding that it can be heat sealed.

To apply the vapor barrier on masonry walls or slabs, on metal surfaces, or on wood, the same adhesive is employed by cold brushing.

## National Labor Board Establishes New Standards for Determining Which Cases It Will Exercise Jurisdiction Over

WASHINGTON, D. C.—The National Labor Relations Board has recently established new standards for determining whether the board will take jurisdiction over cases involving retail stores, multi-state enterprises other than retail and service establishments, and companies which supply services to interstate companies, among others.

The board has discretion to decide in which cases, of those affecting interstate commerce, it will exercise jurisdiction.

For retail stores, the board established two standards—one to govern in cases involving stores operating entirely within one state and the other to govern in cases involving chain stores operating in more than one state.

The new standards are:

(1) A single independent retail store or a chain of stores operating entirely within one state will not come under the board's jurisdiction unless the store involved in the case has

(a) purchases amounting to at least \$1,000,000 a year coming to it directly from outside the state, or

(b) purchases of \$2,000,000 a

year coming to it indirectly from outside the state, or

(c) if the store ships \$100,000 worth of merchandise into other states.

(2) A store which is part of a chain operating in more than one state will come under board jurisdiction if

(a) the store meets either of the standards listed for intra-state stores, or

(b) the gross sales of the chain amount to \$10,000,000 or more per year.

The former standards for stores were \$500,000 a year direct purchases or \$1,000,000 a year indirect purchases, or \$25,000 a year sales made outside the state.

Jurisdiction over multi-state enterprises, other than retail and service establishments, will be governed by the following tests:

(1) To qualify, the plant involved must meet the outflow tests (\$50,000 a year in direct outflow or \$100,000 a year in goods furnished to an interstate company) or the inflow tests (\$500,000 a year in purchases coming to it directly from outside the state where it is located or \$1,000,000 a year coming to it indirectly from outside the state.)

(2) If the plant involved does not meet these tests, jurisdiction will nevertheless be asserted if the multi-state enterprise, of which the plant is a part, has a total outflow of goods into interstate commerce totaling \$250,000 a year, taking the outflow of all its plants together.

Companies which supply services to interstate companies will come under the jurisdiction of the board only if they meet the following tests:

(1) An independent establishment must furnish services amounting to at least \$200,000 a year (formerly \$50,000) to certain types of interstate companies.

(2) If the establishment is part of a multi-state enterprise, jurisdiction will be asserted over any one establishment of the enterprise if the enterprise furnishes services amounting to \$1,000,000 a year to interstate concerns.

The board said it would not exercise jurisdiction over an establishment solely because it is operating under a franchise from a national enterprise. Jurisdiction will be exercised over franchised establishments only if they satisfy some other standard in this plan.

Jurisdiction will not be exercised over enterprises supplying materials to other firms who do interstate business unless the materials themselves ultimately go outside the state.

The board announced that these changes in its jurisdictional standards take effect immediately. The new standards will be applied to cases pending before the board as well as to those filed hereafter.

### Big Time In Savannah

SAVANNAH, Ga.—When Levy's Department Store opens its modernized and completely air conditioned building here soon, the company plans to do so with the most elaborate exercises in the history of the city.

## MARSH Instruments

THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.

PRESSURE GAUGES and Dial Thermometers for all services.

MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.

MARSH INSTRUMENT COMPANY  
Sales Affiliate of Joss & Marsh Corporation  
Dept. D, Skokie, Ill.

## SLANTS on Service

### Triple Evacuation Called Best for Field Drying

Best way to evacuate a complete system in the field is to use the triple evacuation method, employing the refrigerant to be used in the final charge as the means of breaking the vacuum, believes Louis A. Wallace, senior refrigeration engineer for Ansul Chemical Co.

"Basically, this triple evacuation is a method of dilution. You keep diluting any remaining air and moisture entrained in the system," he says, outlining the procedure as follows:

"First step: A complete evacuation of the entire system to as low a vacuum as possible. This should be done using an auxiliary vacuum pump.

"Second step: Break this vacuum with the refrigerant to about 0 p.s.i.g.

"Third step: Repeat the evacuation procedure to as low a vacuum as possible and repeat Step 2.

"Fourth step: Repeat Steps 1 and 2 again.

"Fifth step: Charge the system with the proper quantity of refrigerant through a drier.

"One point should be emphasized," Wallace adds. "Breaking the vacuum with the refrigerant vapor should be done only through an efficient drier. If this precaution is not taken, you may be introducing as much moisture as you have removed in the previous step."

Wallace also recommends that "the permanent drier be in the system from the beginning. Keep in mind that opening the system later for insertion of the drier can easily create a condition where much of the efficiency is lost."

### Trion Appoints Pollock Western Sales Manager

MCKEES ROCKS, Pa.—Clancy W. Pollock has been appointed western regional sales manager for Trion, Inc., designer and manufacturer of electronic air cleaning equipment.

Pollock, a registered professional engineer in the state of California, has been a Trion manufacturer's agent in Seattle, and was formerly chief engineer for Drayer-Hanson, Inc. of Los Angeles.

He will be in charge of Trion's western regional office located in Los Angeles.

## 20-Year Guarantee!

ON THE  
WETTED  
DECK  
SURFACE

HALSTEAD  
& MITCHELL  
COOLING  
TOWERS

2 to  
100 tons

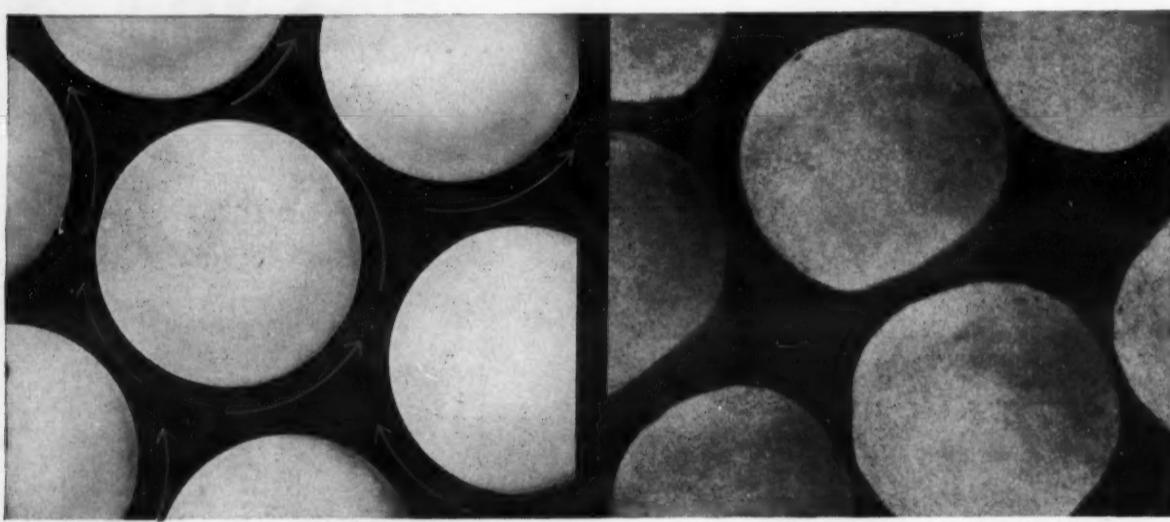
"Built like a Battleship"—economical, lastworthy. Pressure-treated wood in wetted deck surface guarantees against rotting or fungi growth. Stainless steel fan and shaft, plus individual cabinet coatings of Vinsynite, Vinyl Aluminum and chlorinated rubber, add important years of life.

Wholesalers in Principal Cities

Halstead & Mitchell

BESSEMER BLDG. PITTSBURGH 22, PA.

## acid causes refrigeration system breakdown!



Pelletized spheres distribute flow, eliminate channeling.

Greater surface area traps more acids and moisture.

## AN-DRITE (ANSUL-TREATED 100% ACTIVATED ALUMINA)

### removes acid!

Activated alumina in pellet form makes Ansul's new Andrite the double-duty desiccant. Its thousands of fast drying surfaces dry deeper—pulling moisture content way down. But even more important, Andrite removes acid, cleans up the chemical condition that causes sludge and corrosion—the major cause of refrigeration system breakdowns.

Designed for the revolutionary Ansul T-Flo Drier, Andrite won't break down or dissolve to plug filters or damage compressors.

DuPont "Freon," non-foaming oils, sulfur dioxide, methyl chloride

And the drier is easy to install, too. Even replacement of the drier cartridge saves time, because it screws in like a light bulb. And no tools are needed. For fewer callbacks, speedier servicing, change to Ansul. And be sure to give new equipment double protection in acid and moisture removal. Use Ansul T-Flo Driers with Andrite.

For more information or answers to your refrigeration problems write to: Ansul Chemical Company, Refrigeration Division, Dept. D-1, Marinette, Wisconsin.



**ANSUL**



# HOUSEHOLD REFRIGERATION



FIVE CHILDREN of Mrs. Raymond P. Diekman, Ferguson, Mo., help her inspect the four appliances which she won as first prize in a \$100,000 nationwide contest sponsored by Deepfreeze Appliance Div., Motor Products Corp. Mr. and Mrs. Diekman and family are pictured in the showroom of Broadwell & Co., St. Louis distributor, where the prize was presented. The winner, who entered the contest at the Fred Schmidt Appliance Co. store, St. Louis, received an 11-cu. ft. refrigerator with Aqua-Tap drink dispenser on the door, a 14-cu. ft. freezer filled with food, a  $\frac{3}{4}$ -ton room air conditioner, and a deluxe double-oven electric range.

## St. Louis Family of 6 Wins 4 Appliances In Deepfreeze Traffic Building Contest

N. CHICAGO, Ill.—First prize in a nationwide \$100,000 contest sponsored by Deepfreeze Appliance Div., Motor Products Corp., has been awarded to a St. Louis suburban homemaker, mother of five children, it was announced by J. A. Rishel, Jr., general sales manager.

There were 15 national prizes and 200 regional prizes awarded in the contest, which was devised to build store traffic, prospect lists, and sales for participating Deepfreeze dealers.

In excess of 20,000 person entered the contest.

The winner of the top prize entered the contest at the Fred Schmidt Appliance Co. store, 6079 W. Florissant, St. Louis, and formally received her prize, consisting of four Deepfreeze home appliances with a freezer-full of food, at the showroom of Broadwell & Co.,

3643 Delmar, St. Louis, Deepfreeze distributor for the area.

Winning out over thousands of contestants from all parts of the United States and Canada was Mrs. Raymond P. Diekman, Ferguson, Mo. Entries were based on explanation in 25 words or less of a preference for a particular feature of a 1954 Deepfreeze appliance.

Mrs. Diekman received a 14-cu. ft. Deepfreeze home freezer filled with food, an 11-cu. ft. refrigerator with "Aqua-Tap" beverage dispenser on the door, a deluxe double-oven electric range and a  $\frac{3}{4}$ -ton room air conditioner with thermostat and heater.

Formal presentation of Mrs. Diekman's prize was made by Fred Schmidt, her dealer; James P. Broadwell, president of Broadwell & Co.; and William M. Marsh, midwest regional manager for Deepfreeze.

## Clark Retires as Cooper's Apt. House Sales Manager

CHICAGO—After more than 25 years of service with R. Cooper, Jr., Inc., General Electric distributor here, Edward E. Clark has retired as manager of the apartment house sales division.

He is succeeded by Robert D. Partlow, it was announced by Clinton G. Rood, senior vice president.

Clark started with the firm as a retail salesman in 1928 "when it was necessary to sell the idea that electric refrigerators were better than iceboxes," Rood pointed out.

He soon became interested in the possibility of selling refrigerators for use in new and old apartment buildings and was one of the first salesmen appointed as a supervisor in the apartment house field. He served as manager of the apartment house sales division for several years.

## Home Show of St. Louis To Be Staged Feb. 12-19

ST. LOUIS—According to H. J. Loosley, producer and managing director, the twentieth anniversary edition of the Home Show of St. Louis will be held at Kiel Auditorium next Feb. 12-19.

Occupying 100,000 sq. ft. of space in the auditorium's Exhibition Hall, the show will feature the latest developments in home design, materials, decorating, appliances, and heating and air conditioning, Loosley stated.

## 'Price Selling' Blamed for Slipping of Refrigerators from Number One Sales Spot

SEATTLE—"The refrigerator, always the keystone of the appliance industry, is being pushed far out of its No. 1 position," according to Keith Davis.

Speaking on behalf of the appliance dealer, Davis, who is a national director of NARDA, discussed the "Sales Challenge to the Domestic Refrigerator Industry" at the Domestic Refrigerator Engineering Conference held during the 41st semiannual meeting of the American Society of Refrigerating Engineers here.

Sales position of the refrigerator, he said, has been attacked by television; "laundry equipment has taken a new lease on life; automatic washers and dryers have reached high acceptance; air conditioning has invaded the arena, and freezers also have invaded the domain of the refrigerator.

"How can we keep refrigerator production lines flowing? In our area (Seattle) we have a 96.3% saturation on refrigerators, so we look blue at the sight of every trade-in.

"How can we keep the channels of distribution open to refrigerators as dealer and distributor capital is diverted to other appliances, refrigerator markups become lower, and manufacturers

employ unwise merchandising methods?

"It would be terrible for me, however, to charge you engineers with creating all these problems. One problem is that of factories looking at past statistics and then 20 manufacturers each trying to get 20% of the market.

"Back-door selling by distributors, and special deals by factories and distributors" were also hit by Davis.

"Special features of refrigerators are all lost in a welter of price selling. Last year we retailers, nationally, showed a net profit of 2.3%, and our operating cost of 30.6% was too high.

"I feel that we must get back into the servicing business to rebuild the retail dealer," Davis declared.

"Engineers should sell themselves to management. And quit talking just among yourselves and spend more time talking to others in your company—sales and service personnel.

"All we ask of the manufacturer," Davis concluded, "is that production be set within reason, that prices be set to meet fair competition, and that there be a fair, but not lavish, profit left after the sale."

## Stern Elected Head of New Ohio Dealer Group

CLEVELAND—E. C. Stern, president of Stern Bros. Outfitting Co., has been elected president of the newly-formed Northern Ohio Retail Dealers Association.

The association was organized by the owners and operators of 56 retail appliance and furniture stores in the Greater Cleveland area.

The group hopes eventually to include "every legitimate furniture and appliance dealer" in northern Ohio.

Main objective of the association is to solve retailer-distributor problems. These are said to include "back door" selling, sales to builders, and selling to vendors who don't have a retail store.

In addition to Stern, officers are Albert E. Goetz, partner in Mantel's Furniture & Appliances Co., vice president; John C. Barker, president of Barker-Stampfel Home Appliances, Inc., secretary; and Frank Birk, owner of Birk Furniture Co., treasurer.

## For Satisfied Tenants

CORAL GABLES, Fla.—Architect LeRoy K. Albert recently announced plans for a five-story office building to be erected at 271 Aragon Ave. by Edward D. Rogers. It will be air conditioned.

*Another* ROCHESTER PRODUCTS ACHIEVEMENT

### SEND FOR FREE BROCHURE

This new, illustrated, fact-packed brochure tells how GM Steel Tubing can help solve design and production problems. Send today for your free copy.

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DESIGN FILE  
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Records show that in 1953 Rochester Products built and sold enough completely formed GM Steel Tubing Condenser Coils to equip MORE THAN HALF of all the household refrigerators that were sold in the U.S.A. during that year.

Here is evidence that GM steel Tubing is helping more and more refrigeration manufacturers to build better products, faster, for less money.

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ROCHESTER, N. Y., U. S. A.  
ALSO MANUFACTURERS OF ROCHESTER CARBURETORS AND ROCHESTER CIGAR LIGHTERS



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## Air Conditioning Exports Can Aid U. S. Foreign Policy

Herb Laube, president of Remington Corp., foresees a potential connection between tropical countries—which need air conditioning for increasing their productivity, and Western Europe—which needs new industry to counteract a dollar-short economy.

**Air conditioning IS a key** to increased productivity in the tropics, as AIR CONDITIONING & REFRIGERATION NEWS outlined many years ago, following a world-round tour of study of foreign markets.

Mr. Laube's 15 years of traveling in these regions, which occupy 37% of the earth's surface, corroborates our observations. He agrees that the enervating effect of a hot climate is the basic reason for (hold tight, now) this potentially *most productive* part of the earth being the *least productive* inhabited area.

An effective antidote to the tropics' deleterious effect on human workers obviously would be cool surroundings and a good night's rest. The most inexpensive answer to this problem is air conditioners of heavy-duty design.

**However, the demand for air conditioners** in tropical areas far exceeds the supply. Inasmuch as the world's production of air conditioners is concentrated in the United States, this condition will remain so long as there is a dollar shortage (which exists in 90% of the tropical areas).

Hence, world well-being could be enhanced by building air conditioners outside the dollar area for sale to "soft" currency countries.

Most of the "underdeveloped" countries lie within a tropical belt running around the globe bordered by the Tropics of Cancer and Capricorn. We should help make that part of the world more productive as an effective weapon against Communism.

## They'll Do It Every Time . . . . Jimmy Hatlo



To do so, trained men from Europe and the United States must live in the tropics. Air conditioning will be essential for maintaining their health and productivity.

Western countries, according to Mr. Laube, could provide a new and accessible source of air conditioners for hot countries which lack dollars. Furthermore, their own domestic markets would develop thereafter.

**One possible objection** could be the threat of competition for American manufacturers. Mr. Laube declares that European manufacturing of air conditioners for the "soft" currency peoples would be harmful neither to American manufacturers nor to American labor. It would represent "plus production" which could not be sold otherwise.

Moreover, it would produce additional volume for American manufacturers of refrigeration components which European assemblers would have to import from the U. S.

**No one European manufacturer** can sell enough now to attain minimum economical production volume. Here's why:

1. The general public outside of the U. S. A. is unaware of the benefits of air conditioning.
2. Virtually no equipment is made or sold for homes and private offices abroad as of now.
3. Only 1,500 units, one-seventh of one per cent of the 1,175,000 units built in the U. S. for the 1953 selling season, were exported last year to Western Europe.

Another factor which shouldn't be overlooked is the bureaucratic attitude toward the importance of air conditioning in foreign nations. Most government officials abroad neither recognize nor realize that an indoor environment conducive to good health and personal efficiency is desirable and useful in summer as well as winter. They'll have to be educated.

**After these obstacles have been eliminated**, and air conditioning production becomes established in Western Europe, it may well become an international growth industry with unlimited market possibilities. It is Mr. Laube's belief that *fostering* such activity could aid America's long-term foreign policy aims.

And we agree with him 100 per cent.



## OFF THE CHEST

Richmond, Victoria, Australia  
R. Werner & Co.  
Editor:

You may have some difficulty in remembering the writer as it was 1945 when I saw you last, but you will most likely remember me best as the one who had your book on Australia edited while I was in the States with the Royal Australian Air Force. Our earlier meeting was, of course, over here with Frank Hanson during your visit to Australia.

We, of course, still get your very interesting paper and have been following with interest the growth you have shown in the industry in room type conditioners as obviously it has become a very big business in the States and manufacturers here are all highly conscious of the possibilities in this market.

As you are aware, our climatic conditions, except in the north, are nowhere near as severe in temperature and humidity as they are in the U.S.A. on the east coast and in the midwest. And as a guide to us for the possibilities here, I wondered if you would have any data on sales on the west coast where climatic conditions are closer to our own?

As you know we generally follow some years behind the States in acceptance of new appliances, for example, office water coolers are still virtually unknown except in factories where manufacturing conditions are severe and it will most likely be another two-three years before people here are prepared to buy them as a normal requirement as they do in America. That is why the Californian figures on sales would be most interesting to us as a guide if you do happen to be able to obtain them.

Generally refrigeration over here is going very well and air conditioning of hospitals and larger buildings is gradually becoming an accepted fact but the potential is, of course, still tremendously high.

You may be interested in knowing that we have tied up with a number of American companies and are producing equipment out here under license as we have found this to be the only practical approach to the problem due to the difficulty in getting dollar allocations for straight importation.

FRANK R. SLESSAR

**KRAMER**

# Kay-Tee has Guts!

7 SIZES  
2,500 to 12,000 BTU



As the result of continual engineering research and mechanical development Kramer gives you—

**A BETTER COIL  
for  
LESS MONEY**

Take a good look at the Kay-Tee Unit and see the many outstanding features, including:

- New principle of refrigerant distribution.
- Continual tube coil construction (no return bends).
- Die-formed aluminum casing.
- Sweat-proof drain pan.
- Built-in heat exchanger.
- Guaranteed ratings based on accepted standards.
- External feeler bulb loop for easy installation
- And many more features.

Write for Catalog R-230

**KRAMER TRENTON CO. • Trenton 5, N.J.**

## Service & Supplies

### Sales

Kind of Business and Geographic Division	Per Cent Change		May 1954 Panel	
	May 1954	from	May 1954	No. of Firms
Appliances and specialties wholesalers	1953	1954	5 Mos. Report	Dollar Values (add 000)
New England	-16	-9	-13	109 16,588
Middle Atlantic	-4	-8	-6	13 1,540
East North Central	-22	-14	-15	21 4,833
West North Central	-1	-17	-4	20 2,393
South Atlantic	-4	-17	-3	12 2,002
South Central	-33	-7	-17	17 1,882
Mountain	-15	+49	-16	10 1,809
Pacific	-20	+12	-22	5 498
Refrigeration equipment, parts (com'l)	-12	-14	-17	11 1,631
Middle Atlantic	-9	0	+6	69 2,440
East North Central	-4	+7	+8	14 878
South Atlantic	+18	-4	+14	12 232
Pacific	-16	-8	+1	23 571
	+47	+9	+37	9 261

### Inventory, End-of-Month (At Cost)

Kind of Business and Geographic Division	Per Cent Change		May 1954 Panel	
	May 1954	from	No. of Firms	Reported Dollar Values (add 000)
Appliances and specialties wholesalers	1953	1954	Reported	Dollar Values (add 000)
New England	-6	0	91	24,024
Middle Atlantic	-6	-9	11	1,947
East North Central	+4	+2	16	4,971
West North Central	+3	+1	15	4,187
South Atlantic	-2	+17	11	2,611
South Central	-4	+6	17	3,929
Mountain	+4	-7	8	2,843
Pacific	-38	-5	5	1,061
Refrigeration equipment, parts (com'l)	-27	-7	8	2,475
Middle Atlantic	+12	+1	63	4,181
East North Central	-4	+6	11	1,060
South Atlantic	+20	-1	12	637
Pacific	+15	-4	23	1,319
	+18	+6	7	296

## May Sales of Commercial Equipment, Appl. Wholesalers Drop from Last Year's Figure

WASHINGTON, D. C.—Sales of commercial refrigeration equipment and parts wholesalers in May were unchanged from the previous month and off 9% compared with May a year ago, a Census Bureau report shows.

May sales of wholesalers of electrical appliances and specialties were 9% below April and 16% under May, 1953.

For the first five months of 1954, refrigeration equipment and parts wholesalers' sales gained 6% compared with the like year-ago period but those of appliance and specialty wholesalers declined 13%.

End-of-May inventories of refrigeration equipment and parts wholesalers increased 1% from April 30 and 12% from a year ago. There was no change in appliance and specialty wholesalers' stocks compared with the end of April, but a decrease of 6% compared with May 31, 1953.

May sales of merchant wholesalers as a group dropped 6% below the previous month and were down 5% from a year ago. Cumulative sales for the first five months were 4% below the corresponding period of last year. Wholesaler inventories at the end of May showed no change from the previous month but were down 3% from stocks on hand May 31, 1953.

### RSES Units Hear Gaebel At Educational Sessions

WEST HARTFORD, Conn.—Carl W. Gaebel, district sales engineer for Bush Mfg. Co. and Heat-X-Changer Co., was guest speaker at a series of educational programs held during July meetings of four midwestern RSES chapters.

On July 7, the regular meeting of the Little Egypt Chapter was held at the Illinois Electric Works branch store in Marion, Ill.; July 8 the Cape Girardeau, Mo. chapter met at the Coca-Cola Bottling Works; on July 21 the Air Capitol Chapter convened at the Coleman Mfg. Co. in Wichita, Kan.; and on the following evening the Boot Hill Chapter met in Dodge City, Kan.

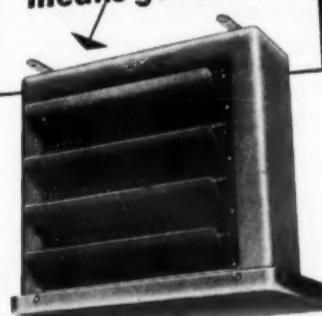
The educational program at each meeting consisted of a talk and open discussion on various types and methods of defrosting low temperature evaporators, with detailed discussion of the Bush "Therm-O-Cycle" hot gas defrost method.

### E-Z-SEE LIQUID INDICATOR

NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES  
Analyze flow, function of expansion valve, by means of E-Z-SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof—hundreds of thousands in use.  
Available at Wholesalers everywhere

REMCO  
INCORPORATED  
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**LARKIN**  
means good looks



**LARKIN HUMI-TEMP UNIT**  
For clean, smart lines, satin-smooth finish, harmonious color and overall good looks—Larkin leads. Behind this beauty is the quality and performance that keeps Larkin out in front!

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

WATCHDOG OF THE NATION'S FOOD SUPPLY  
**LARKIN COILS, INC.**  
519 MEMORIAL DR. S.E. • ATLANTA, GA.

## General Controls Uses Aircraft Design In Valves for Car Air Conditioning

GLENDALE, Calif.—Aircraft valve design principles have been adopted by General Controls Co. in the construction of a new series of car and truck refrigeration valves to give the units added ruggedness and reliability.

Demand for failure-free control of refrigeration equipment to protect perishable truck cargo and reliable air conditioning control for passenger car and bus comfort led General Controls to develop this new line of electromagnetic valves, the company said.

Known as the "RV" series, these valves incorporate the vibration and shock resistant features of aircraft types. The series augments the company's regular line of refrigeration controls.

The new mobile refrigeration valves come in two basic models, the RV-1, which is a normally closed type, and the RV-2, which is a normally open valve. Both handle "Freon" refrigerants, and in addition to their ability to withstand vibration and shock, feature simplified, light-weight construction along with compactness of form—all typical features of aircraft type valves.

General Controls' RV valves are made for continuous duty and are multipole—capable of operating in any position. One of the secrets

of the valves' ability to withstand vibration is their simple flat disc magnet design.

This prevents a valve from hammering itself to pieces under severe vibration conditions. The electro-magnet is weather resistant and will operate continuously without failure at high ambient temperatures, the company says.

While primarily for use with "Freon-12" and "Freon-22," the RV valves can be used for the control of other refrigerants, and as suction and liquid stop valves or in by-pass valve applications in mobile refrigeration and air conditioning. The series can also be used for controlling air or petroleum derivatives.

Aside from the special aircraft-design features, the new valves offer other advantages. Among them are: low cost, freedom from friction in all moving parts, tight shutoff assurance through specially designed soft seats in valves, and low current consumption.

### Keps Distributes Timken Line

PITTSBURGH—The Keps Electric Co. has been appointed exclusive tri-state distributor for Timken Silent Automatic heating and air conditioning equipment, it was announced recently.

## Bush and Heat-X Name Disbrow to District Post

WEST HARTFORD, Conn.—Bush Mfg. Co. here and its wholly-owned subsidiary, Heat-X-Changer Co., Brewster, N. Y., have announced the appointment of Edgar L. Disbrow as a sales engineer in their midwest district.

Working out of the companies' Chicago offices, he will cover Minnesota, Iowa, Nebraska, and northwestern Wisconsin.

A graduate of Tri-State college, Disbrow formerly worked as an application engineer for Heat-X and later served in a sales engineering capacity for both Bush and Heat-X in the Metropolitan New York area. He will reside in Minneapolis.

### New Grant Unit Cooled

GOLDSBORO, N. C.—The new W. T. Grant Department Store here, one of the largest stores in Goldsboro, has opened for business in a new air conditioned building at Walnut and James St. The store provides a total of 20,500 sq. ft. of floor space.

## TAKE A LOOK AT PENNORAMA



Because Penn quality tubing is consistently drawn to close tolerances and exact specifications, you can talk it with pride—recommend it with confidence—write orders with the assurance of complete customer satisfaction.

The broad scope of Penn products enables jobbers and wholesalers to fill the bill accurately, quickly and profitably. Penn quality seamless copper tubing in 50' coils is packaged in sturdy, attractive cartons ready for re-shipment or delivery. All Penn packages are clearly marked for easy identification. Look to Penn for sealed tubing in straight lengths or coils up to 1" O.D.—Papco flaring and cutting tools for faster, neater tube work. For the entire picture of Penn products, write today for the story on PENNORAMA.

QUALITY TUBING HAS A "PENN NAME"



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## Commercial Refrigeration

### Supermarket's Produce Dept. Equipped With Walk-In Having 2-Carload Capacity

DENVER—A long list of unusual features are contributing to the merchandising efficiency of the produce department at Busley's, new supermarket at Sixth and Peoria Sts. here.

Located in a newly developed residential area some 10 miles east of Denver, the new Busley store, seventh in the chain, has put maximum emphasis on the produce department. Well separated from the rest of the store, the produce section occupies 60 by 40 ft. of space at the front of the store. Walls are done in soft grey with gay flowers painted above the open self-serve refrigerated fixtures lining the right and front walls.

Two 60-ft. self-serve cases are located at right angles along these walls, one a refrigerated case, the other a dry rack of matching white enamel and stainless steel.

In the center of the floor are four slanting display racks 16 ft. long by 5 ft. wide, rising at an angle of 15° from front to rear. An innovation with the Busley

firm, these are constructed of hardwood over which a metallic paint has been baked on. They are easily cleaned, moistureproof, and undamaged by produce acids.

A series of five to eight trays, with sloping edges, are likewise finished, and can be lifted off when changing displays. Each unit contains six compartments for bags, at the lower right rear. "We've found that this design and the finish of the racks show advantages over either wood or metal," reports Robert Dudley, produce manager, "from all standpoints, including appearance and convenience."

To the left of the central self-service refrigerated case is the department's major asset, a two-carload walk-in refrigerator five steps inside the stockroom entrance. The big box is 22 ft. deep, 12 ft. wide, and 8 ft. high, with white enamel exterior finish, and hardwood oak lining. A single dome cooler in the ceiling provides circulating refrigerated air to

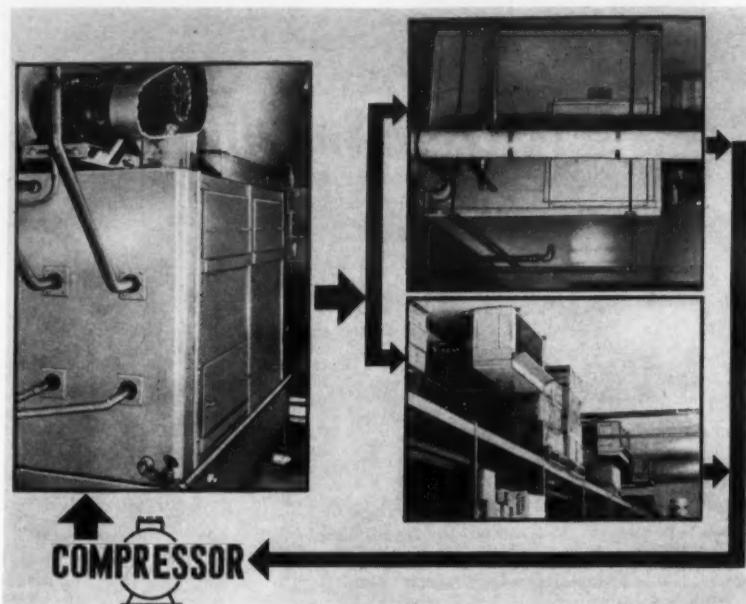
maintain a temperature of 40°. Refrigeration is supplied by a 2½-hp. compressor.

Produce, delivered by refrigerated trucks, moves by both conveyor and hand truck from the rear door over the 80-ft. length of the stockroom to the cooler, which means only brief exposure to room temperature. This "complete refrigeration" is heavily emphasized by salespeople to customers.

The oversize cooler was installed both because Busley's expects a heavy volume of produce sales in the new market, and to permit maintenance of large inventories due to the long haul from Denver to the suburban location. Fewer service trips will be required.

An outstanding feature which brought much attention to the produce department at the grand opening in mid-December is a six-tree "orange grove" which flanks the entrance. Hauled by truck from Lakeland, Fla., the "grove" consists of fruit-bearing trees in barrel-sized containers of soil especially treated with chemicals to keep the citrus trees growing indefinitely. A U-shaped wall of orange crates around the clump of orange trees has sold a record volume of juice oranges during the first few weeks. "We plan to keep the orange grove on display permanently," Dudley pointed out.

Six electrically-operated checkstands of the revolving variety have demonstrated such efficiency that it hasn't been necessary to use produce department checkouts, according to the management.



FLOW LINES show refrigerant flow from compressor to evaporative condenser, to air conditioning unit, to product coolers in refrigerated storage room. Drayer-Hanson equipment was used in this installation in Associated Cheese Bldg., Los Angeles.

### 84,000-Cu. Ft. Refrigerated Storage Room Cuts Spoilage In Cheese Distributors' Plant

LOS ANGELES—An 84,000-cu. ft. refrigerated storage room—one of the nation's largest—was shown recently at the formal dedication ceremonies of Associated Cheese Distributors' new plant at 430 S. Anderson St. here.

According to A. E. Wollman, president of the firm, the building covers more than 15,000 sq. ft. and features refrigeration or air conditioning in every room, thereby keeping the spoils factor to a minimum.

The main storage area, which holds more than 400,000 lbs. of cheese, fish, and related products, is refrigerated to 40-42° by means of a 20-hp. system using eight Drayer-Hanson "Flocold" commercial refrigeration units.

In addition, the cutting and packaging room has its own cooling unit. This unit is equipped with a special Trion electrostatic

filter which removes 98% of the dust and other foreign materials from the air.

A special air conditioning system for the office consists of a 5-hp. Drayer-Hanson 24-in. by 30-in. 4-row DX coil, specially adapted to meet the exact air conditioning problems of the area.

All three systems operate from a single Drayer-Hanson "Perma-Fan" evaporative condenser (PF-307), located in a rear room.

According to Forrest E. Hershey, president of Holbrook Refrigeration, Inc., who installed the complete system, the PF-307 was used as a "water conservation device that will save 92% of the water." To prevent spoilage in case of failure of the main storage system, an emergency switching method is included, making it possible to cut in any of the compressors at will.

water cooler and carbonator. Other features include a large refrigerated bottle storage compartment, stainless steel soda and water arms, three stainless steel syrup pumps, and two fruit jars with stainless steel tops. A direct expansion coil refrigerates syrup rail, fruit, and storage area.

The Soda-Mite is also available in a remote model less carbonator, or less carbonator and compressor.

The "Zero-Bin" frozen food storage cabinet is available in either 36½-in. or 56-in. lengths. Both models are 26 in. deep.

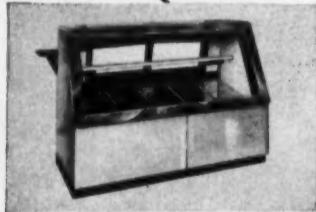
The smaller model B 323 holds 120 lbs. of frozen food, is equipped with a single ice cream cabinet type "flip-flop" lid, and has a ½-hp. compressor. The larger model B 324 holds 230 lbs. of frozen food, has two "flip-flop" lids, and is equipped with a ¼-hp. compressor.

#### NEW PRODUCTS?

Turn to "What's New" Page for useful information on new products.

Use Key No. for fastest service.

## KOCH Puts the Spotlight on Selling!

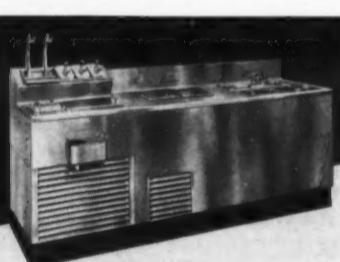


Because Koch famous Series 100 Double Duty display cases are now better and more beautiful than ever, the food inside looks better and more beautiful, too. The entire model is brand new, except for the model numbers and the quality craftsmanship that has distinguished KOCH products since 1883. The new series has been designed with brilliant stainless steel framing; with BIGGER display glass front; with smoother, sleeker lines; and with all the sales appeal that today's hard-hitting merchandising demands.

Food is not only "picture framed" to peak selling advantage, it is also kept at peak goodness for days . . . without loss of nutritional value, without shrinkage, and without loss of color. The new Koch Series 100 performs with world-famous durability and stamina. Operating costs and service charges are cut to the bone. The stunning "new look" of the modern-as-tomorrow lines, combined with traditional quality, dependability, and performance, make Koch Series 100 Display Cases without equal anywhere in the world.

**KOCH** refrigerators, inc.  
NORTH KANSAS CITY 16, MO.

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WIRE FOR *Information*  
SINCE 1883



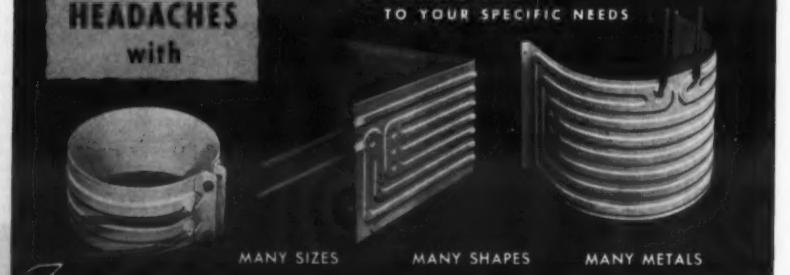
### 'Soda-Mite', 'Zero-Bin' Added to Leitner Line

CHICAGO—A narrow bob-tailed fountain unit and a frozen food storage cabinet have recently been added to the Leitner line, the Leitner Equipment Co. here has announced. Both are constructed to line up and match all standard Leitner backbar equipment.

The "Soda-Mite" fountain unit measures only 27½ in. long and 26 in. wide. Completely self-contained, it is equipped with a hermetically sealed compressor and new type instantaneous soda and

### DEAN COLD PLATES

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**DEAN PRODUCTS, INC.**

## Restaurant & Bar Equipment

### '\$1-a Day' For Automatic Ice Cube Makers In Drugstore Installations 'Pays the Freight'

ST. LOUIS—Drugstores of all sizes and in every sort of location have proven "ideal prospects" for ice cube makers, Central Distributors here has discovered.

Under the plan, Central Distributors is offering both "neighborhood druggists" and those in busy downtown locations an ice cube maker on the basis of a \$25 down payment, the remainder to be paid out in instalments of \$1 per day. Since the machine produces up to 200 lbs. of ice cubes per day at a cost of less than 26 cents, the system permits the druggist to allow the machine to "pay for itself" while showing a consistent daily profit as well.

The major sales appeal, Central Distributors has found, is the furnishing the druggist with individual waterproof plastic bags, printed with the store name, which do away with the mintage, and

"messiness" of ice cube handling. Along with the installation of the machine, Central Distributors suggests an attractive display, with glass ice cubes, inside one of the plastic bags, displayed at the fountain, at the soft drink department, in the liquor department, and wherever a logical tie-in may be found.

With the "\$1-a-day" plan firmly established, Central Distributors sold 26 ice cube machines to the first 50 druggists who were contacted under the new plan, largely through stressing a profit of from 15 to 20 cents per bag on 25-cent ice cube packages.

"Wherever the druggist is willing to concentrate on an actual ice cube sales program, he usually finds that the machine amortizes its cost more rapidly than anything else in the store," it was pointed out.

assure uniform temperature control in the refrigerated compartments with a minimum of air motion, the company further explained.

The "Salabar" is made with finished ends for use as a free-standing unit or with unfinished ends for add-a-section installation. It matches all other Leitner equipment.

The unit measures 26 in. deep and 43 in. high, with a working height of 36 in. One set of models is 57½ in. long and another is 78¼ in. long. On the smaller size models, there is 12½ sq. ft. of shelf area and 10½-cu. ft. capacity. The larger models have 21 sq. ft. of shelf area and 16½-cu. ft. capacity.

The smaller models are equipped with 8 pans and the larger with 12.

#### Coolidge-Locher Co. Has Tripled Staff in 25 Years

#### Self-Contained 'Salabar' Has Bread 'Lowerator'

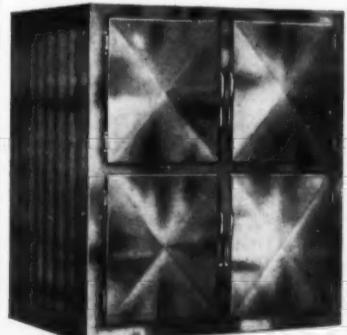
CHICAGO — A self-contained salad refrigerator that offers a variety of top arrangements has been introduced by the Leitner Equipment Co. here.

Called the "Salabar," the new unit features double bread "Lowerators" on some models that will hold sufficient pullman type bread for 54 sandwiches. Another feature on some models is a waist high, easy opening and self-closing pull-out drawer.

All models feature a variety of refrigerated pan arrangements, space for a four-slice toaster, a 1,000-cu. in. stainless steel refuse container, a 16-gauge stainless steel top, laminated maple removable cutting board, an opening for a duplex outlet connection, and refrigerated underbar storage compartments. It also has a hermetically sealed, slide out refrigeration system.

A slow speed blower is used to

#### "A Case of Cool Judgment"



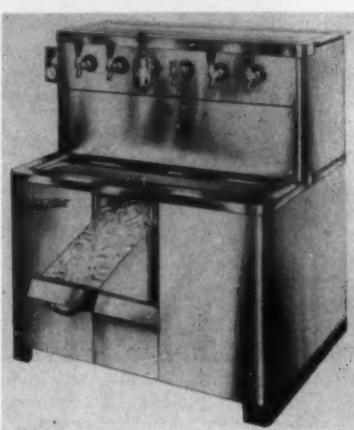
**Stainless Steel DRINKMASTER MIX MODEL**  
#4D60 Holds 60 Gals. Mixt.  
#4D80 Holds 80 Gals. Mixt.  
Upper Part for Food Storage.  
**United Frigulator Engrs.**  
Menominee, Mich.

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WAGNER ELECTRIC CORPORATION  
6471 PLYMOUTH AVE., ST. LOUIS 14, MO.



#### 'Kwik-Server' Combines Bartender's Operations

ERIE, Pa.—A single piece of equipment that will perform nearly all the functions that a bartender could require has been introduced recently by Uniflow Mfg. Co. here as the "Kold-Draft" automatic "Kwik-Server."

The stainless steel unit includes an ice maker that will produce 70 lbs. of cubes a day, an ice-water faucet, a carbonated water faucet, a number of draft beer faucets, and a dry bottle cooler storage area that will hold 6½ cases of standard export bottles.

Fingertip control enables the attendant to draw draft beer within 1° F. of any desired temperature, the company claims.

## Vending Machine Show Set for Oct. 10-13 At National Guard Armory in Washington

CHICAGO—A total of 95 vending machine manufacturers and suppliers of vending products have already reserved space for the 1954 trade show of the National Automatic Merchandising Association, it was announced here recently.

The show will be held Oct. 10-13 at the National Guard Armory in Washington, D. C. The association said extensive preparations are being made for its "largest and finest" convention-exhibit.

The convention business program will feature "McNulty's Nightmare," a dramatic fantasy presenting in quick-revue style some of the problems of vending operators.

Other program features include the premiere of the new NAMA industry public relations motion picture now being produced; an inspirational address by Dr. Kenneth McFarland, educational director of General Motors Corp.; a new type of discussion presentation on "Blueprinting Key Management Problems" and "Blueprint for Full-Line Vending," to be moderated by John W. Mock, management consultant; and an address on salesmanship especially tailored to the selling problems of vending operators, by Ralph D.

Myrick, sales training consultant to Reynolds Metals Co.

Official hotel reservation forms are available from NAMA, 7 S. Dearborn St., Chicago 3, Ill.

Exhibitors of vending machines and parts who have reserved space include:

A.B.T. Mfg. Co.; American Vending Corp.; APCO, Inc.; Auto-Photo Co.; Brandt Automatic Cashier Co.; The Calnevar Co.; Cantrell & Cochrane Corp.; Chef Way Sales, Inc.; Chicago Lock Co.; Cigaromat Corp. of America; Coan Mfg. Co.; Coffee-Mat Corp.; Cole Products Corp.; Continental Vending Machine Mfg. Corp.

Dari-O-Matic, Inc.; Eastern Electric, Inc.; Fruit-O-Matic Mfg. Co.; General Electric Co.; Fred Hebel Corp.; Hedeman Products, Inc.; Hot Cup Corp.; Ideal Dispenser Co.; Johnson Fare Box Co.; Jo-Lo Perfumatic Dispenser, Inc.; J. H. Keeney & Co., Inc.; Lehigh Foundries, Inc.; Lyon Industries, Inc.

James H. Martin, Inc.; Merkle Korff Gear Co.; The Bert Mills Corp.; Mills Industries, Inc.; Mr. Robot, Inc.; National Rejectors, Inc.; National Vendors, Inc.; Rowe Mfg. Co., Inc.; Rudd-Melikian, Inc.; Sattley Co.; Spacarb, Inc.; Transportation Vendors, Inc.; The Vendo Co.; Wright Machinery Co.



This is Humboldt High School, St. Paul, Minnesota—one of the many schools in an efficiently-operated system where

Kelvinator Coolers are relied upon to keep milk at constantly correct temperatures . . . day in and day out.



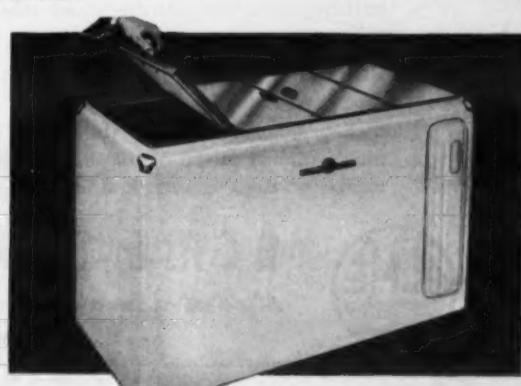
Lid's off and deliciously cold milk is ready for thirsty "customers". Miss Karmen has a busy time serving hosts of St. Paul's junior citizens.



When the lunch bell rings and the line forms at Humboldt Hi cafeteria, teen-age appetites create a peak demand on serving facilities.

## KELVINATOR GOES TO SCHOOL . . . in St. Paul, Minnesota

Yes, Kelvinator Milk Coolers are used in the cafeterias of many schools. Here, Kelvinator is the choice, as it is in institutions, hospitals, restaurants, industrial cafeterias, and thousands of other mass feeding installations across the nation. Wherever fast cooling is required under peak load conditions, users depend on Kelvinator. The stainless steel lids lift right out during rush periods. The clean, sanitary appearance, fast cooling, and ease and speed of service make it a favorite for volume traffic everywhere. And it is quality built for long, hard service.

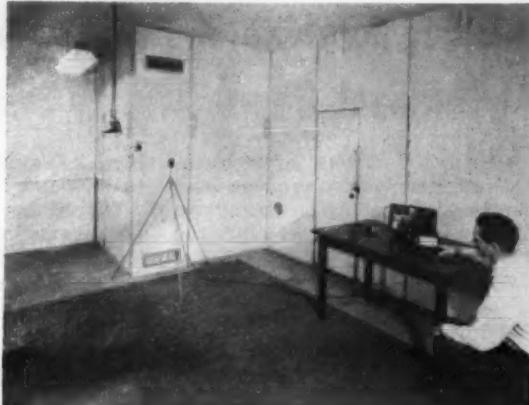


Model BC-180 with EASY-LIFT LIDS. Also available, Sliding Lids Model BC-180LLS. Powered by Polarsphere . . . Economical—Trouble-free!

Get complete information from your Kelvinator distributor or write Kelvinator, Division of American Motors Corporation, Detroit 32, Michigan.

**Kelvinator**  
Manufacturers of Refrigeration for 40 years

RIGHT: Although air enters at 50° F. it reaches 79° within 14 ft., maintaining the desired room temperature of 78°. In the occupied zone air movement does not exceed the allowable 50 f.p.m. and noise level is within 37 decibels. The dial on the wall below the outlet permits patient or nurse to regulate the room temperature. Mock-ups of patient rooms were used by Connor Engineering Corp., maker of ceiling-type diffusers, in selecting outlets.



LEFT: Small take-off connection and pressure and velocity-reducing valve can usually be located as convenient, giving the architect unusual design freedom. Because the air moves at high pressures and velocities, supply ducts are about one-third the size of those required by the conventional low pressure design, thus contributing a substantial saving in space.

#### All of This on Limited Budget

## Hospital Cooling Provides 100% Fresh Air, Low Humidity, and Manual Control In Rooms

By K. R. Goddard, Thomas and Hutton and Associates, Architects-Engineers, Savannah, Ga.

Recently there has been a considerable increase in hospital construction in the southern states. Climatic conditions being what they are in this part of the country it was logical that a modern concept of full air conditioning and other mechanical improvements be included in their planning.

The now-under-construction Memorial hospital in Savannah, Ga., illustrates the conditioning require-

ments of structures in the 300-bed or larger category.

As in any hospital, occupant comfort had to be the first consideration; a high degree of efficiency was also mandatory. Typically, these objectives had to be accomplished within a strictly limited budget.

The Memorial hospital has in excess of 134,500 sq. ft. of conditioned space with all of the nursing

areas, operating and delivery suites, and nurseries supplied with 100% fresh air.

Savannah being a coastal city, normal summer humidity is quite high. On any 100% fresh air system the refrigeration required is, therefore, proportionate to the air required to overcome the building heat gain.

Consequently, the lower the building gains and losses, the less will be the air required. Hence studies were made to determine those construction features which

would be economically justified in maintaining the building load at a minimum.

The walls are of cavity construction, the 2-in. cavity being filled with glass fiber insulation. All windows facing east, west, or south will be shaded with reflector screens. These eliminate the necessity of venetian blinds and permit maximum visibility while reflecting up to 70% of the solar gain on the exposed glass area.

This method was found to be cheaper than the cost of insulating glass or double glazing. Moreover, it permits the interior decorators to cover windows with drapes instead of blinds.

The wall insulation meant a savings of 72 tons of refrigeration and the shades 74 tons. A proportionate saving in heating is made during the three winter months. As the building is essentially a cruciform in plan, little or no reduction in solar heat gain could be made by orientation.

#### High-Pressure, Central-Plant System Used

After careful consideration of the several suitable conditioning methods and available equipment, a high-pressure, central-plant type of system was decided upon. This design lends itself well to greater temperature differentials and, of course, the greater the differential the less air required to overcome the load.

The cooling load of the building, without insulation and shading of glass areas with venetian blinds, and including the fresh air, was determined at 872 tons of refrigeration.

With the nursing areas, operating and delivery suites, and nurseries supplied with 100% fresh air and the administration areas with 25%, a total of 135,670 c.f.m. of cooled air would have been required if a conventional low-velocity system had been used.

After adding wall insulation, shading glass areas with reflector screens, and increasing the temperature differential 50% (from 20° to 30°), the fresh air requirements were reduced to only 66,175 c.f.m., a further saving of 295 tons of refrigeration.

#### Inexpensive Individual Manual Control

Another important advantage of the high-pressure method is its ability to deliver variable air quantities to different spaces without affecting the system's balance. This permits individual control in each room by means of an inexpensive manual control.

Such flexibility, particularly advantageous in hospitals, is virtually impossible in the conventional

low-pressure design without a considerable number of complex and expensive controls.

In order to overcome the tremendous latent load imposed by an 80° F. wet-bulb temperature for 66,175 c.f.m. of outside air and at the same time maintain reasonably close control of the relative humidity throughout the conditioned space, five chemical dehumidifying towers are employed.

These provide the conditioning equipment with a normal apparatus dewpoint of 46° F. and a reserve safety factor down to 40 grains of moisture per pound of air supplied.

The penalty normally arising from the use of chemical dehumidification is avoided by transferring the entire dehumidifying load—equivalent to approximately 400 refrigeration tons—to the cooling tower and permitting the temperature of the air through the absorbers to rise 14° above the 85° F. tower water.

#### Air-to-Air Heat Exchanger Used

The dehumidified air is passed through an air-to-air heat exchanger to recover the temperature of the cooled exhaust air and transfer it to the fresh, warm, dry incoming air.

The additional cooling required to lower the air to 48° F. is accomplished by a chilled water coil operating as a sensible cooler. The chilled water supply (42° F.) is controlled by a modulating valve operated by a thermostat located in the return air duct immediately ahead of the exhaust inlet of the heat exchanger.

No re-heat is required with this system although a heating coil is provided for winter operation and can be used for re-heat if required.

A distribution system operating at 3 to 5 in. static pressure supplies air to the conditioned spaces. The ventilation system is sized to permit the return to exhaust of an air volume equivalent to the supply. Return velocities in the exhaust system are conventional, consistent with a low noise level.

The distribution ductwork is asbestos cement with premolded insulation on all supply ducts. This type of ductwork has a smooth interior surface with excellent flow characteristics, friction loss at higher velocities being slightly less than sheet metal.

The sound absorbing qualities of the material aids in noise reduction and eliminates the necessity of any sound traps in the system other than the attenuation in the outlet valve boxes.

Ease of fabrication and assembly insures good airtight ductwork capable of withstanding 10 in. static pressure. In this installation, however, the maximum static pressure will not exceed 5 in. All joints are cemented over the core, the joints of the latter being staggered to produce, in effect, two solid airtight sleeves.

All turns greater than 45° and all branch take-offs have prefabricated airfoil turning vanes. The permeability of this material is so low that losses due to seepage are negligible.

#### Ductwork Savings 15%

The installed cost of this type of duct, based on our experience on

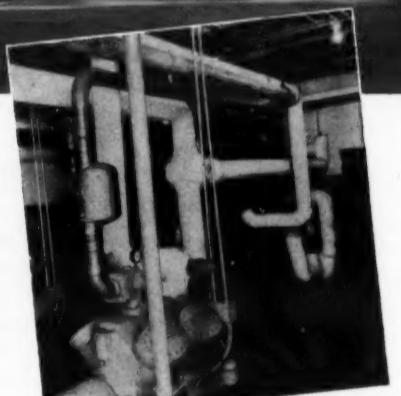
(Concluded on next page)

**ACME** furnished the package

### for RYAN BUILDING 100-TON COOLING SYSTEM



CONTRACTOR — Art Calvert Sales & Service  
CONSULTING ENGINEER — R. L. Duffer



When the Florida Power & Light Company decided to air condition its Ryan Building offices in Miami, Florida they took the easy way of installing a system by using an Acme Flow-Therm Packaged Water Chiller. This unit consisting of a two-circuit Acme Dry-Ex, two Acme HX Heat Exchangers, and two Acme STF Condensers furnishes 300 GPM of 46° water to the system. It is used in conjunction with two 50 HP Carrier Compressors.

Buying a "package" gave the company a perfectly balanced unit, greatly reduced their installation time and expense, saved space, and, being an Acme Flow-Therm, enabled them to select a packaged unit specifically tailored to their job requirements.

The Flow-Therm is the latest addition to the Acme line of air conditioning and refrigeration products. It is the answer to the contractor and user who wants the benefits of a packaged unit along with the chance to specify matching Acme components. It can be used with any model or make compressor. See your Acme representative for more information on the Flexible Flow-Therm.



**ACME INDUSTRIES, INC.**

Mfgs. of a complete line of Air Conditioning and Refrigeration Equipment

JACKSON, MICHIGAN



Evaporative Condensers  
Cooling Towers  
Floor-type Unit Coolers



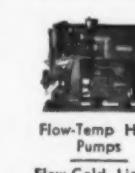
Direct Expansion (Dry-Ex) and Flooded Liquid Chillers



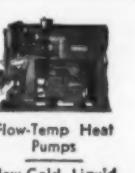
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Flow-Temp Heat Pumps  
Flow-Cold Liquid Chillers



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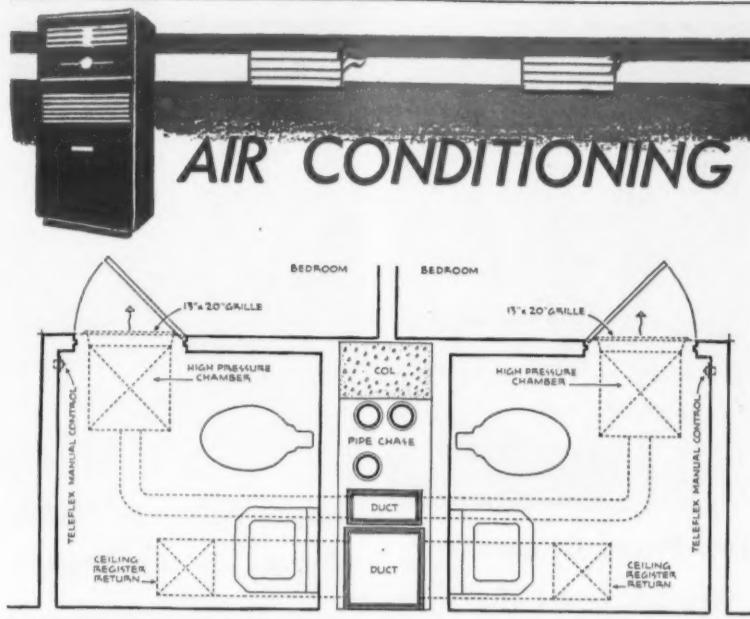
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This information helps us to make the NEWS serve you better.

send to: AIR CONDITIONING & REFRIGERATION NEWS, 450 W. Fort St., Detroit 26, Mich.



PLAN of typical chase and typical plan of two adjacent rooms.

## Hospital Air Conditioning--

(Concluded from preceding page) other high-pressure jobs, offers a saving of over 15% on the over-all ductwork cost as compared to insulated sheet metal constructed to withstand the same static test and sound trapped to an equivalent noise level.

An appreciable saving in building space and ductwork was made by using a plan which permitted both supply and exhaust ducts and plumbing to be located in a common chase.

Each riser feeds from the ceiling of the top floor and serves two adjacent rooms on each floor level on all floors above the first. Air distribution over the first floor is through ducts concealed in a suspended ceiling.

Good air diffusion is of paramount importance in this type of design since the comfort of the occupants depends not only on the temperature, but also to a large extent on the air movement within the space.

For proper diffusion three basic requirements must be met. Static pressure and velocities have to be reduced and attendant noise absorbed. Supply air temperatures must be regulated for occupant comfort and at the same time overcome the building gain or loss. Air circulation must be maintained throughout the entire space at velocities acceptable to the occupants.



**\$7450** { complete—to contractors F.O.B. Dallas\*

- 1/2 H.P. Motor
- Hot-dipped galvanized tank

**EXCLUSIVE FEATURE:** condensate accumulating in tank is pumped against 100 lbs. pressure of condenser water-line through check valve directly in condenser water-line at air conditioning unit, thence to cooling tower.

\*Or order from jobber

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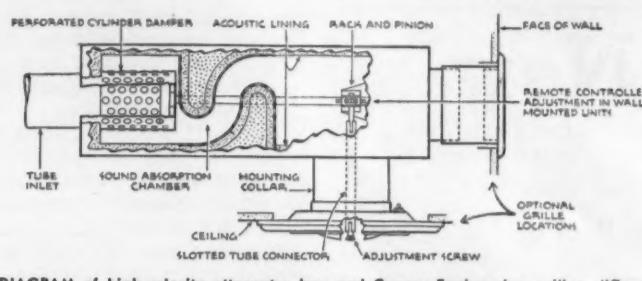


DIAGRAM of high-velocity attenuator box and Connor Engineering ceiling diffuser.

10° F. in sensible temperature reductions by evaporative cooling the cooling cycle.

The combination of air tempering equipment reduced the chilled water requirements from an original estimate of 872 to 315 tons of refrigeration.

A steam vacuum jet chiller will be installed which has a normal capacity of 340 refrigeration tons of chilled water at 42° F.

Other substantial savings in operating expenses are anticipated by the multi-use of process steam. All of the steam generated is utilized for at least two purposes and most of it is used three times before recovery as condensate. The power plant consists of two water tube boilers generating steam at 250 p.s.i.g. and 500° TT. The steam is first used in a turbine generator operating non-condensing at 250 p.s.i.g. and 100 p.s.i.g. back pressure.

This high back pressure affords a sufficiently high water rate on the turbine to provide all of the

hospital steam requirements while generating from 60 to 70% of the electrical current.

After the steam leaves the turbine exhaust, the amount necessary for laundry and hospital sterilization is bled off the 100-lb. pressure main. The balance at 100 p.s.i.g. is fed to the auxiliary turbines operating the power plant auxiliaries.

These turbines operate on a 30 p.s.i.g. back pressure and thereby supply exhaust steam for water heating, kitchen, operation of the steam jet chiller, etc.

### Pressure Reducing Stations

There are pressure reducing stations between each of the three steam mains (250 lbs. to 100 lbs.; 100 lbs. to 30 lbs.). During normal operations requirements are so balanced that less than 4% of the steam used must pass through the reducing valves.

The air conditioning chiller is a four-booster steam jet vacuum

chiller with three of the units operating on 30 lbs. and one on 100-lb. steam. The chiller condenser is so arranged that during the winter season it can provide condensing facilities for the entire plant or any part as required. During the summer months the chiller uses all of the excess 30-lb. steam.

The 3,500 g.p.m. cooling tower supplies cooling water for both the condenser and the dehumidifying equipment.

The complete power plant, excepting the generator, electrical switch gear, and water-heating tanks, is located outdoors at the rear of the service building.

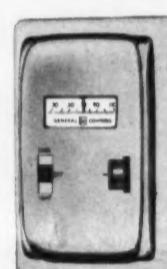
### Campaign Launched To Sell 250 Packaged Units by Oct.

DALLAS — D. W. Harrington, vice president of Texas Distributors, Inc., General Electric distributor for air conditioning and heating equipment, announced the beginning of a sales campaign to dealers and employees of that company designed to move a minimum of 250 commercial packaged units before Sept. 30.

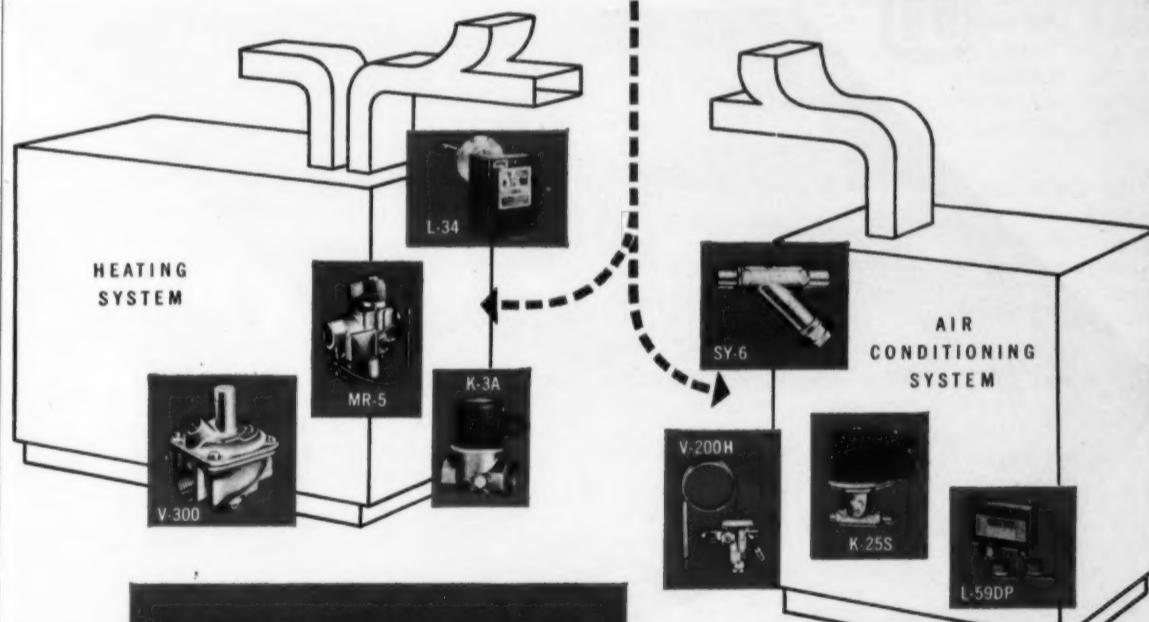
Sales personnel will collect cash awards for each sale—and an all expense trip to New Orleans will be awarded for each five sales.

Texas Distributors, Inc. sponsored a winter sales campaign with an all expense paid trip to New York as awards. Some 24 winners flew to New York in April.

## packaged control for combination heating and cooling systems



Year around comfort is available to your customers in General Controls' T-70H room thermostat. This versatile instrument maintains even, healthful warmth when the weather's cold and air-conditioned coolness when it's hot. Investigate General Controls' complete line of automatic controls for residential heating and air cooling systems: room thermostats, fan or limit controls... automatic gas valves... safety controls, pressure regulators... and B-60 self-powered all-gas control systems. Thermal expansion valves... pressure and temperature switches... magnetic stop valves... strainers... many basic types of automatic controls with thousands of application variations. Wrap your supply and service problems up in a single package. Take advantage of General Controls' fast, reliable one-source, one-responsibility service.



**General Controls**  
*Air Conditioning*  
Package

*A complete  
product line with  
One source of supply,  
One responsibility*

### GENERAL CONTROLS

Glendale, California • Skokie, Illinois

Manufacturers of Automatic Pressure, Temperature, Level and Flow Controls for Heating, Home Appliances, Refrigeration, Industrial and Aircraft Applications.

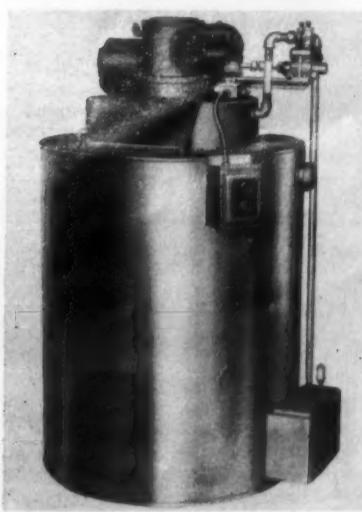
FACTORY BRANCHES IN 34 PRINCIPAL CITIES  
See your classified telephone directory.



## What's New

When requesting further information on new products, please use "Information Center" form.

### Rotating Knife Is Only Moving Part of Ice Maker



KEY NO. D-830

CHICAGO—An ice making machine that forms dryer, crisper flakes of ice by the natural forces of expansion and contraction is being manufactured by the Col-Flake Corp. here.

The "Col-Flake" ice maker is a vertical type stationary cylinder with patented method of distribut-

ing water at the top and separating the ice from the water at the bottom. It is equipped with patented ice-removing blades.

According to the manufacturer, smooth flowing water forms a uniform sheet of ice upon contact with the inner wall of the vertical freezing drum. The only moving part is the permanently sharpened scoring knife. As the knife rotates, it indents and grooves the ice sheet.

The scoring knife, which never touches the metal surface, also applies pressure transverse to the direction of indentation, thereby disturbing the bond between the ice and freezing surface.

Utilizing the natural forces of contraction and expansion, the scored ice pops off automatically, producing crisp, dry, super-cooled flakes, the company said.

The company emphasized that there are no turning seals of any kind for either refrigerant or water, no special ice carrying parts are needed, and no knife sharpening is necessary.

The ice maker can be easily opened for inspection and cleaning,

though sediment cannot accumulate on the vertical drum. Extensive use of galvanized iron, stainless steel, and chromium plated parts prevent corrosion.

An on-off pushbutton starter is used that may be remotely controlled if desired. Refrigerant may be either "Freon" or ammonia. A 4-in. thick blanket of "Styrofoam" insulation can be supplied installed or in prefabricated segments for on-the-job installation.

The Col-Flake machine is made in three models. Depending on incoming water and refrigerant temperatures, they have capacities of 4 to 6 tons, 8 to 11 tons, or 15 to 20 tons in a 24-hour period, respectively.

The smallest machine, the model 3-A, is 55 in. high, 38 in. wide, and 34 in. deep. It weighs 1,250 lbs. and is powered by a  $\frac{1}{2}$ -hp. 220-volt, 3-phase, 60 cycle motor. With horizontal surge drum, dimensions are increased to 67 in. high, 60 in. wide, and 51 in. deep, and weight increases to 1,780 lbs.

The model 7-A, powered by a  $\frac{3}{4}$ -hp. motor, measures 71 $\frac{1}{2}$  in. high, 49 in. wide, and 44 $\frac{1}{2}$  in. deep. Weight is 1,780 lbs.

It weighs 2,750 lbs. With horizontal surge drum it measures 88 in. high, 74 in. wide, and 64 in. deep. Weight is 3,350 lbs.

Model 12-A, with 1-hp. motor, is 84 in. high, 64 in. wide, and 53 in. deep, and weighs 5,000 lbs. With horizontal surge drum it measures 102 in. high, 83 in. wide, and 77 in. deep, and weighs 5,700 lbs.



### Low Priced Automatic Washer Leads Thor Line

KEY NO. D-831

CHICAGO—A new automatic washer at a "new low price" leads the new line of automatic and spinner washers and matching dryers introduced by Thor Corp.

The new washers and dryers were unveiled recently to distributor representatives in closed meetings in New York, Chicago, Los Angeles, Atlanta, and Dallas.

Thor's line-leading automatic is its model 451. The automatic features an exclusive rinse water temperature pre-selection control which allows the homemaker to rinse clothes in hot, warm, or cold water.

Another highlight of the model 451 is the "short wash cycle" for miracle fabrics and average-soil wash loads, which allows the homemaker to wash, rinse, and spin-dry a full load of clothes in just 18 minutes, using as little as 5 gals. of hot water, according to Thor.

Another wash time setting for the 451 is automatically timed according to length desired by the homemaker—from 1 to 11 minutes.

The control panel is white. Dials are yellow with chrome trim.

Second new completely automatic washer in Thor's line is the model 456. This washer features a softly lighted control panel of pastel yellow and a moving bar of light which allows the homemaker to see from a distance what phase of washing action is taking place.

When the wash, rinse, and spin-dry phases have been completed, automatically, a bell notifies the homemaker that it is time to move the clothes to the automatic dryer.

Two yellow and chrome dials on either side of the control panel operate model 456. The left hand dial operates the automatic fill, controlling the amount and temperature of water. The right hand dial automatically takes over and controls the washing time, rinsing, and spin-dry cycle.

Thor's new semi-automatic washer, model 255, features single dial operation. One dial, located at the right of the back-splash, controls washing, rinsing, and spin-dry.

Any washing phase may be repeated or skipped by raising the dial and moving the pointer to the phase desired. The escutcheon of model 255 features yellow and red.



### Tubular Pellets Formed by Polar Chips Ice Maker

KEY NO. D-832

FORT WORTH, Texas—Producing ice in a small, tubular pellet form, the "Polar Chips" automatic ice maker is being introduced to the national and export markets by the Polar Chips Mfg. Co. located here.

J. N. Mullins, Jr., president of the company, said that he developed the unit in cooperation with the University of Texas a year ago and is now producing it in three models.

Production emphasis, he said, is being placed on the Model 5-230, which will turn out more than 230 lbs. of pellets every 24 hours. It incorporates a refrigerated bin that will hold 100 lbs. of the pellets in storage.

Over-all dimensions of the console type cabinet are 39 $\frac{1}{2}$  in. high, 24 in. wide, and 24 in. deep. Cabinet finish is in neutral gray.

With no moving parts in its freezing unit, the Polar Chips machine can be used wherever water and electrical connections are available.

Model 5-230 is equipped with a  $\frac{1}{3}$ -ton, 115-volt air-cooled Copeland compressor.

Mullins said that University of Texas tests have shown that the model 5-230 will produce ice at a cost of approximately 10 cents per 100 lbs. Costs will vary, of course, depending upon local water and electric rates.

Further savings, he said, are made because the refrigerated storage bin retards loss through melting and the small size of the pellets completely eliminates chipping, grinding, or crushing.

The two larger models are both the same size: 41 in. high, 36 in. wide, and 24 in. deep. Both have a 200-lb. storage bin. The model 5-400 is equipped with a  $\frac{1}{2}$ -ton compressor and has a production capacity of 400 lbs. per day. The model 5-600 has a  $\frac{3}{4}$ -ton compressor and a production capacity of 600 lbs. per day.

Mullins pointed out that all models automatically stop producing when the storage bin is full and automatically begin again when the ice supply is low.

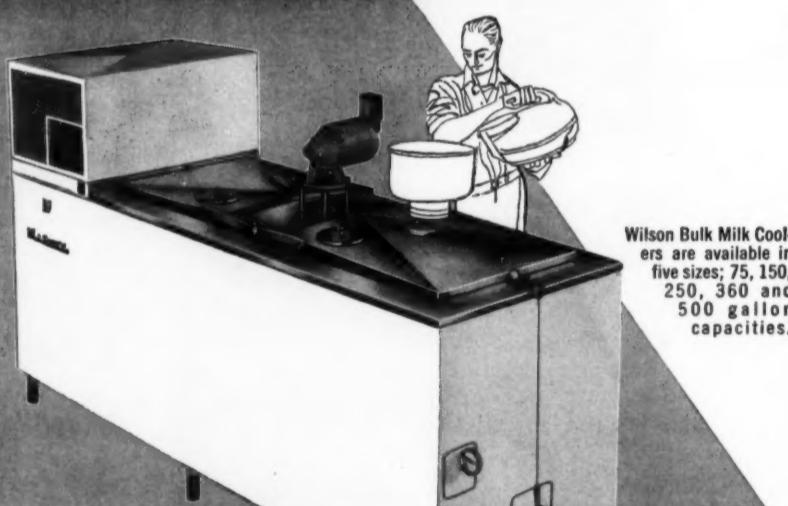
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## What's New (Con't)



### Sunroc Water Cooler Has Refrigerated Storage

KEY NO. D-833

GLEN RIDDLE, Pa.—Sunroc Refrigeration Co. here has placed in production its new 1955 model combination water cooler-refrigerator, a unit engineered for industrial as well as commercial use.

The new Sunroc combination cooler is a 9 g.p.h. water cooler and accessible refrigerator compartment combined in one cabinet which requires just over a square foot of floor space.

The new model incorporates a deep draw stainless steel top; a stainless steel base; forced air-cooled condenser; and fitting for a glass-filler attachment.

The refrigerator compartment is almost a full cubic foot, large enough to hold 20 quarts of milk, and is constructed of stainless steel. The cooling coils for both water and compartment are wrapped around the outside.

When lowered, it becomes a service shelf.



### Space Heaters Use Thermostatic Control

KEY NO. D-834

ATLANTIC CITY, N. J.—A new line of automatic thermostatically controlled space heaters was introduced at the National Housewares Show here by Fresh'n'd-Aire Co., a division of Cory Corp.

The line includes three new portable models and the "Heaterette," a fan forced heater repriced to retail at \$14.95.

The new models include the standard H533 at \$18.95, the deluxe H653 at \$24.95, and the H753 automatic pushbutton heater and room deodorizer at \$49.95.

The standard model is a fan forced heater with tip-over safety switch, air-cooled case, turn-over safety guard, and carrying handle. It measures 14 by 10 by 8 in. and weighs 16½ lbs. It is available in either 1,320 or 1,650 watts.

The deluxe model is the same size and wattage as the standard model but offers a combination of both fan forced convection heat and infrared radiant heat. A special wire safety guard and safety light are added features.

The pushbutton model offers either fan forced convection heat or infrared radiant heat plus the benefits of a built-in deodorizer lamp which operates in conjunction with the fan only. Mounted on rubber feet, this unit measures 15½ by 16 by 12 in. and weighs 23 lbs. It is also available in 1,320 or 1,650-watt models.

According to J. W. Alsdorf, Cory Corp. president, new models are now in production and samples will be shipped in August.

### Device Checks Liquid Entering Capillary Tubes

KEY NO. D-835

ZELIENOPOLIS, Pa.—To provide a positive and inexpensive means of checking the quality of the liquid refrigerant entering capillary tubes, Remco, Inc., now is offering a combination liquid indicator-distributor. Remco said it can supply these new devices at less than \$1 each in production quantities.

It is claimed that a liquid indicator reduces production costs by reducing run-in time, since slight undercharges of refrigerant are readily detectable by the presence of bubbles in the liquid indicator.

Both the liquid line connection and the distributor connection are of the swivel or union type. Due to this arrangement, the liquid line and cap tube or tubes may be soldered (soft or silver) to their respective connections while completely removed from the hermetically sealed body assembly. They subsequently are attached to the body assembly.

An airbell supplied with the gauge is installed inside the tank and is connected with the indicator head by a length of copper tubing.

A tank bushing and compression fitting to seal the vapor in the top

of the tank are also provided with the gauge.

The dial is white with black graduations that are distinct and can be read at a glance. The instrument is available in 3, 5, and 12-in. sizes for industrial and marine use.



### Ice Cream Mix Cabinet Has Variety of Uses

KEY NO. D-837

LA CROSSE, Wis.—A line of self-contained ice cream mix cabinets has been introduced under the "DariLad" label by the La Crosse Cooler Co. here.

The company says that in addition to pre-cooling ice cream mix, the cabinets can also be used as milk holdover cabinets and for the refrigerating of refuse.

The cabinets have a front-opening door and are finished in white baked enamel. The compact, unitized refrigeration system is installed on the left end.

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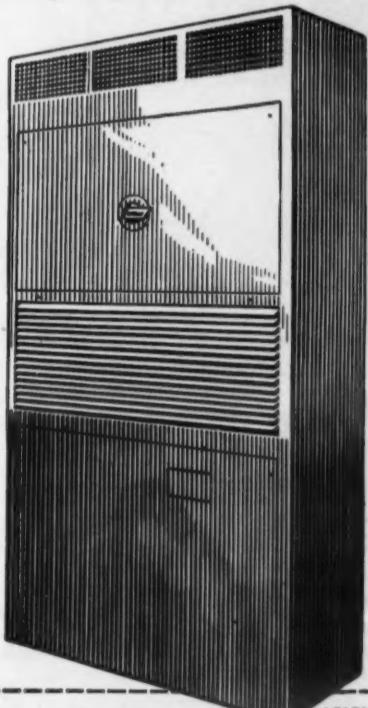


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## Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

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## Current Literature

To obtain further information on the literature listed below, please refer to key number preceding listing. Please use the "Information Center" form on "What's New" page.

### Acme Catalog Uses New Idea In Equipment Selection

KEY NO. P-830

JACKSON, Mich.—A new idea in selection procedures for refrigeration and air conditioning equipment in the capacity range of 15 to 220 tons is incorporated in a new catalog on Acme "Flow-Therm" packaged liquid chillers issued recently by Acme Industries, Inc. here.

It enables the user to obtain a unit tailored to his exact requirements and yet embodying all the advantages of a factory-assembled and tested packaged, the company says.

The major components of the standard Flow-Therm package, an Acme "Dry-Ex" chiller and an Acme shell-and-tube condenser, are first selected by means of simplified job-tested data to match perfectly, in capacity and performance, with the compressor to be used on the job.

Then, matching heat exchanger, Acme-engineered control package and interconnecting refrigerant lines and wiring are automatically

specified by Acme and factory-assembled on a standardized support framework.

The catalog points out that "the user will benefit from minimum erection and installation expense, from space-saving size, and from pre-piped and tested refrigerant circuits."

Included in the 12 models of Flow-Therm packaged liquid chillers listed are units for one-compressor, single-circuit installations, and others for two-compressor, dual refrigerant circuits.

### Brochure Shows How Milkshake Speeds Serving

KEY NO. P-831

CHICAGO—An illustrated brochure is available on "Milkshake," the new milk shake dairy bar developed by Mills Industries, Inc.

How this new automatic machine simplifies and speeds up the making of milk shakes and malts is shown by a series of close-up photographs. Tables are included giving costs and large margin of profit on shakes of various capacities at usual retail prices.

### Bulletin Offered on G-E Shaded-Pole Motors

KEY NO. P-832

SCHEECTADY, N. Y.—A new 10-page publication describing the complete line of G-E shaded-pole fractional horsepower motors for fan and blower applications has been announced as available from the General Electric Co. here.

Designated GEA-6134, the two-color bulletin illustrates features and applications of G-E shaded-pole motors with ratings from 1.5 watts through  $\frac{1}{6}$  hp., and gives specifications, including dimensions and operating characteristics.

### Worthington Offers New Air Conditioning Bulletin

KEY NO. P-833

HARRISON, N. J.—Ceiling-mounted and floor-mounted central station air conditioner units for commercial and industrial applications are the subject of a new bulletin now being offered by Worthington Corp.

The bulletin, C-1100-B33B, is graphically illustrated and gives specifications, dimensions, accessories, physical data, and features of the AHY (ceiling-mounted) and AVY (floor-mounted) units.

Designed for complete year-round air conditioning, the units are sectionally constructed to permit ease of handling, interchangeability, and flexibility of assembly.

The vertical AVY units are de-

signed in three sections—base section, coil section, and fan section. Horizontal AHY unit consists of fan section, coil section, and drip pan.

Constructed of fabricated steel angles electrically welded and reinforced by a novel gusset design, all sections may be handled and installed independently where desired.

### 'Spotaire 900' for Low Ceiling Rooms Described

KEY NO. P-834

LOS ANGELES—A two-color bulletin, No. C-4.25, announcing the new Drayer-Hanson "Spotaire 900" has been issued by Drayer-Hanson, Inc. here. This new model is designed to provide individual room air conditioning for rooms with low ceilings and other space limitations.

Similar in operation to the well-known "Spotaire HRC" series, the "900" is only  $11\frac{1}{4}$  in. high, including cabinet. It provides zone-control and requires little or no ductwork, and no floor space.

The bulletin features a photo of the new unit, a quick-selection table, dimensional diagrams, and performance chart. Also pictured is the "Spotaire" VRC floor unit.

### 3 Product Lines Covered By New Trane Literature

KEY NO. P-835

LA CROSSE, Wis.—The Trane Co. has announced new literature now available on three product lines—the improved self-contained air conditioning units, the "Cold Generator" line with capacities extended to 100 tons, and improved "Torridors" with "Delta-Flo" fin coils.

Complete information, including capacity tables and roughing-in dimensions, on Cold Generators, the Trane line of packaged water chillers, is available in Bulletin DS-352.

This factory-assembled unit is now available in capacities ranging from 10 to 100 tons. It is said to be ideal for medium-sized air conditioning systems "because of its ease of installation and operating economy made possible by automatic multi-step capacity control which meets the widespread fluctuations of air conditioning loads."

A completely new bulletin describing Trane reciprocating compressors is now available. In addition to information on new "Freon-22" units and duplex models, Bulletin DS-361 has capacity tables, specifications, and information on operating features for Trane compressors and condensing units with capacities ranging from 10 to 100 tons.

Automatic multi-step capacity control is incorporated into all sizes of the Trane reciprocating compressor.

Bulletin DS-362 presents complete information on improved Trane self-contained units with capacities from 3 to 20 tons. Units of 3, 5, and  $7\frac{1}{2}$ -ton capacity are now available with the new Trane hermetic compressor.

The large units are available with either water or evaporative-type condensers. Line diagrams, wiring diagrams, capacity tables, and helpful examples of unit selection are available in the 24-page illustrated booklet.

### Berna Catalogs Products, Services for Refrigeration

KEY NO. P-836

RICHMOND HILL, N. Y.—A catalog of Berna products and services for the air conditioning and refrigeration industry was published recently by the Berna Corp. here.

The 10-page booklet covers the Berna Descaler, "Drifreez" dehydrators, Sarine corrosion service, Sarine electrostats, and fire extinguishers.

### 'A Barrel of Facts About Beer' by Rite Cold Products

KEY NO. P-837

ST. LOUIS—A new product catalog and a booklet entitled "A Barrel of Facts About Beer" are being offered to the trade by the Rite Cold Products Co. here.

The products catalog contains specifications and price sheets on the company's lines of sectional walk-in refrigeration rooms, instantaneous draw and keg coolers, and dry storage beverage coolers.

The booklet, according to the company, represents Rite Cold's compilation and condensation of the necessary information required to serve beer properly so as to retain the quality of the beer as brewed in the brewery.

It discusses temperature-pressure relationship in draft beer; causes and elimination of wild, flat, cloudy, and unpalatable beer; selection of the proper beer glass, and how to handle bottled beer.

### 'Complete Guide to Food Freezing' Issued by Amana

KEY NO. P-838

AMANA, Iowa—A new "Complete Guide to Food Freezing," covering selection, preparation, packing, freezing, and serving foods, has been published by Amana Refrigeration, Inc.

The 80-page illustrated book accompanies each new freezer as it is delivered to the home, as part of a "continuing program to help housewives make most effective use of their freezers," it was explained by Mrs. Sara E. Walls, home economics director.

Emphasizing the importance of proper planning of the freezer "load" as basic to its most beneficial utilization, the book opens by suggesting which foods to buy at each season of the year and how long to store different foods. Instructions on the preparation, packaging, and freezing of foods are given; also, on the arrangement of foods in the freezer, and methods for keeping inventories.

Individual chapters give full information on freezing meat, poultry, fish, shellfish and game, vegetables, fruits, dairy products, and prepared foods.

### Catalog Describes H. & M. Residential Cooling Tower

KEY NO. P-839

PITTSBURGH—A completely new residential cooling tower catalog, offered by Halstead & Mitchell here, describes in detail mechanical, physical, and operating characteristics of the company's latest line of residential cooling towers for air conditioning.

The 8-page catalog, RE-1, describes the Halstead & Mitchell towers and presents graphically tower capacities for various wet-bulb temperatures.

Indoor and outdoor tower installations are both shown in full-page line diagrams. Details of construction include a description of the famous 20-year guarantee against rotting of the wetted deck surface due to attack by fungus growth.



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## 'Package' Conditioners Cool Off 'Hot Spots' For Workers In Ice Cream Producing Plant

DETROIT—In an unusual application of packaged air conditioners, two units are doing a good job of spot cooling production workers at the plant of Dexter Dairy Co. here, according to Nick Messina, vice president.

The Frigidaire units are situated so as to cool a 90-ft. by 40-ft. L-shaped area. One of the air conditioners, a 5-ton unit, discharges its air across the base of the L, cooling 13 workers in the frozen novelty manufacturing section where popsicles, chocolate covered bars, and other ice cream confections are made.

The other, a 7½-ton unit, is located at the top of the L and serves the ice cream production section where 2 to 10 men operate two continuous freezers, a batch freezer, and other equipment, it is pointed out.

### ICE CREAM MAKING IS HOT WORK

Contrary to what one might expect, it's extremely hot work making ice cream. Extensive use of steam for pasteurizing and sterilizing shoots temperatures past the

100° mark. At the ceiling level in the plant, temperatures have soared to 140°.

The high cost of labor makes it necessary to get maximum production in the least amount of time, Anthony Poma, president of the dairy, said, pointing out that comfortable men produce more than hot, sweaty ones.

After considering various ideas for air conditioning the production area, the dairy decided to accept the proposal of S. F. Hill of Frigidaire Sales Corp. to use the two packaged units.

### COOLS WORKERS, NOT PLANT

Hill figured that air conditioning of the whole plant would be an unnecessarily expensive undertaking. For one thing, the plant has high ceilings, which means that large quantities of hot air accumulate in the upper part of the room, but do not affect the workers themselves.

For another thing, the entire plant is one big open room, about a third of which is used for storage purposes and shipping and receiving.

ing, and is unoccupied a good deal of the time.

Under these circumstances, Hill suggested that packaged air conditioners would do an effective job of cooling just the area in which most of the work is done. He explained that the natural tendency of hot air to rise and cool air to settle would keep the cooling where it would do the most good.

By discharging the air at a height of about 6 ft., the cool air would hug the floor, forcing the hot air to rise to the ceiling where ventilators would exhaust it to the outside. To help reduce the heat load, strips of canvas could be placed under the glass skylights.

### COLD FRONT SET UP

Hot air from the storage area would not invade the production area, he added, because a "cold front" would be set up between the two areas, forcing the hot air from the storage area up over the strata of cool air in the production area.

And that's just how it has worked out, according to Hill, who is Frigidaire Sales' ice cream representative for eastern Michigan. He said the units are "doing a swell job just as I figured."

Messina agreed with him. "The system has worked okay, even when it's been 90° and over," he said. "I never thought two units would do the job. I thought we would need three. But it's comfortable in here and everybody's happy."



COMFORTABLE WORKERS produce more than hot, sweaty ones, Anthony Poma, president of Dexter Dairy Co., Detroit, has discovered since packaged air conditioners were installed in the plant. Note ice cream production equipment and, against wall, one of the two air conditioning units which spot cool workers. Canvas-covered skylights cut down on heat load, while rising hot air is exhausted to outside by ceiling ventilators.



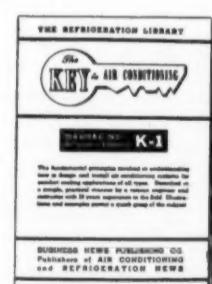
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MANUAL NO. K-1—The physics of air conditioning; use of charts; methods of ventilation; figuring air requirements; refrigeration problems in air conditioning; use of fans; methods of air distribution. Psychrometric chart included with book.

MANUAL NO. K-2—Sheet metal ducts (sizing methods, problems of design); discussion of air cleaning devices; heat transmission coefficients; problems and tables for figuring heat gain; air through cooling coils; selection of cooling coils, expansion valves, compressors, and water cooling coils.

MANUAL NO. K-3—General discussion of heating systems; selection of heating coils (air friction, condensation); description and operation of evaporative condensers; water cooling towers; automatic controls; piping refrigerant, water, and steam; and insulation problems.



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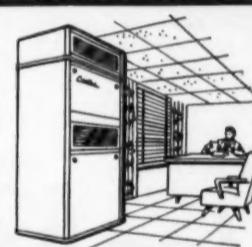


Food Warehouses

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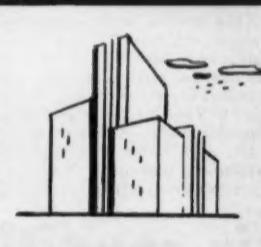
Homes



Offices



Businesses



Large Buildings

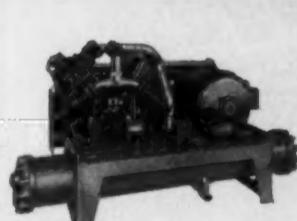
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When you handle the Curtis Line, you're ready for practically any profitable job in the field of air conditioning and refrigeration. You're ready to satisfy customers with the industry's top quality equipment line. You're ready to take advantage of Curtis' national advertising in Saturday Evening Post, Time, Newsweek and other well-read publications.

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**Curtis** REFRIGERATING MACHINE DIVISION  
of Curtis Manufacturing Company  
1912 Kienlen Avenue, St. Louis 20, Missouri

## Public Desire, Acceptance Seen Vital Before Home Cooling Market Can Reach Full Potential

PHILADELPHIA—Sales of 2,000,000 room air conditioners and 500,000 residential air conditioners annually will be reached in five years, M. S. Lebair, manager of the middle Atlantic district for York Corp., predicted recently.

Speaking before the Philadelphia chapter of the American Society of Refrigerating Engineers, Lebair pointed out that to reach such a goal, electrical energy available will have to be increased by 3,500 million kilowatt hours each year. This figure is based on one kilowatt per hour for room air conditioners and three kilowatts per hour for residential air conditioners operating for 1,000 hours a year.

Other steps that must be taken before that potential can be translated into actual sales were outlined by Lebair.

### Acceptance

"First," he said, "we must have public acceptance of residential air conditioning. That does not exist to a very heavy extent today. The American public is always skeptical of anything that they think is new and undeveloped."

"We are a rare mixture of trailblazing and conservativism, and while everyone says on a hot day

that they'd like to have their home air conditioned, the mass market does not have the confidence in the present-day development of the art to go ahead with it even if its requirements could be carried out.

### Desire

"Then we have the matter of desire. That cannot be developed until after we have pretty nearly complete public acceptance of residential air conditioning. Hot weather again does create an interest that is akin to desire, but that will never be fully developed until we get to the point that there is enough acceptance and enough installations to have us want to 'keep up with the Joneses.'

"Product development must be further advanced and that must include some means of tapping this market of steam and hot water heated homes at a low cost."

"And finally, application methods and techniques must be improved before we can be completely in gear in this phase of our business."

Lebair cited the current research being undertaken at the air conditioned village near Austin, Texas as one example of how public acceptance can be built. There cen-

tral air conditioning of 21 different manufacturers and materials of 32 manufacturers of allied home construction products are being used in homes constructed by individual members of the Austin Association of Home Builders.

The homes are purchased by families who by agreement permit the dwellings to be subjected to 12 months of tests under actual living conditions. University of Texas psychology researchers will ask them questions on the physical and mental aspects of living in an air conditioned home.

The project is a joint endeavor of the National Association of Home Builders, the Air-Conditioning and Refrigeration Institute, and the National Warm Air Heating and Air Conditioning Association.

### Research Helps

"The results of such experiments, properly publicized by industry nationally, will add much to public acceptance," Lebair declared. "So too will the individual research to be conducted by companies such as York."

"In York, we are constructing two completely new homes, air conditioning them throughout with

## Residential Air Conditioning

### 5 Major Difficulties That May Be Experienced In Installing Residential Systems In Old Homes

PHILADELPHIA—Five major difficulties that may be experienced in installing residential air conditioning into existing structures were pointed up recently by M. S. Lebair, manager of the middle Atlantic district for York Corp.

They are:

1. Where a warm air heating system is currently installed, many of the blowers will not take the additional air quantity and frictional loads. Some installers are taking an arbitrary position that they will not make such an installation without a new fan or blower.

2. Most existing duct systems leak and the dampers almost always do. Garage and bathrooms cannot always be shut off just by closing the damper.

3. Grilles and outlets are seldom of the proper size. Their adaptation or change need not be a major job in most cases, but it is one that requires experience.

4. Condenser water or condenser air disposal should be carefully planned.

5. Imposition of additional horsepower on existing electric service should be carefully examined and the utility consulted.

two different types of systems. They will be occupied by families of essentially the same type, size, and habits, and careful studies will be maintained over a period of at least a year to develop occupant reaction, health, environmental habits, etc. This, too, will be a contribution to public acceptance."

Public desire will be taken care of, Lebair feels, by the present-day boom in air conditioning of major office buildings and hotels, which will make people more conscious of their uncomfortable un-air conditioned homes.

### Several Types Available

Lebair pointed out that there are several types of residential air conditioners currently available. One is the single room air conditioner, which, he said, York makes in fractional horsepower sizes in window units and in console units of up to 2 tons capacity. Some are of the heat pump type, to provide some heating as well as cooling.

Another type is the self-contained packaged air conditioner that can be adapted to residential cooling and ranges in sizes from 2 to 8 hp., he said. Many of these for home use are made in paired circuits. They come either packaged or separate.

A third type is a similar group of products without any fan section for incorporation into existing heating systems or new systems with a separate fan being supplied. These are provided in single or multiple circuits and for either air-cooled or water-cooled application.

He noted that York also makes complete packaged year-round air conditioners that incorporate both heating and cooling systems in the same unit. They are available with either gas or oil heat.

"Application," he asserted, "is a factor that can materially speed up our accomplishment of a goal

of 500,000 units per year if it is properly handled. Or, conversely, it can slow it down or even prevent its accomplishment if it is mishandled.

"Everyone today is trying to get into the act. Many completely unqualified companies and individuals are offering to install residential air conditioning. In many cases they are well-intending organizations who have been misled by the over-zealousness of some manufacturer who has not had any experience in air conditioning, trying to get into the 'gold rush.'

Citing as an example the air conditioning of his own home for \$1,200, he pointed out that "without the know-how gained through many years' experience, an installation such as mine could very well have resulted in the contractor removing the equipment and pocketing a loss and in the owner being convinced that you can't air condition such a house at a reasonable cost."

"Just to give you a few of the things that I ran into with full advance knowledge and with full anticipation of the corrective measures, let me say that my ducts leaked, that my fan speed had to be increased, and a floor drain that I had not used for years was clogged. All of these things were determined in advance and corrective measures taken at the time the installation was made."

### Pioneering Needed

"It is my firm conviction that residential air conditioning, from an application standpoint, must be pioneered in the same fashion that comfort cooling for industrial and commercial establishments was developed in the 1920's."

"Members of the American Society of Refrigerating Engineers can help greatly to further their own interests and those of the

(Concluded on next page)



### U.S. Self-Contained Air Conditioners

Versatile, new U.S. Self-Contained Air Conditioner cools, heats, ventilates, filters, circulates, dehumidifies! Installed quickly, simply, anywhere—no ducts required. Made in three sections, complete unit can be handled in passenger-type elevators and carried in a small truck. Adjustable grilles, replaceable filters. Available in 2-, 3-, 5-, 8-, 11-, and 15-ton sizes for automatic operation in new or old stores, offices, showrooms, restaurants, etc.

### U.S. Air Conditioners—for chilled water systems

New U.S. Air Conditioners use same piping for heating and cooling. Connect water chiller to boiler system and add these U.S. free-standing floor models. Each has its own filter, silent blower and automatic or manual control. The turn of a valve brings heating or cooling. Many capacities available—a size for every cooling load. Suspended models require no floor space—install above any closet or false ceiling.

### U.S. Air Conditioners—for forced air systems

It's simple to add a U.S. cooling unit to present heating ducts. It takes little space, yet circulates cool, dehumidified air throughout home or business building. Furnace fan draws air through filter. For winter warmth, merely turn damper! Also available: new U.S. suspended model which hangs in basement or crawl space, or stands on attic floor. Cooling coils install right in present ductwork. Both models come in several sizes.

## Air conditioning news from U.S. Radiator



### U.S. Window Air Conditioners

Require no plumbing, are compact and easy to handle for quick, easy installation. They cool, dehumidify, filter. Thermostat (optional) keeps operating cost low, permits desired temperature settings. 5-year warranty.

U.S. Sash-window model (left) can be used as air conditioner or ventilating fan—fresh air or exhaust. Hinged panel conceals fingertip controls. Double-baked enamel finish harmonizes with any room color. 4-way louvers. Three sizes—1/2, 1/4, and 1-ton.

U.S. Casement-window model (right) requires only one-square foot of window space. Condensing unit hangs outdoors, evaporating unit hangs indoors—no openings to let in street noises. Ideal for multiple dwellings.

Here's U.S. Radiator's complete new line of air conditioners. Each is compactly designed to do its specific job . . . to save installation time and expense . . . to provide comfort cooling at lowest operating cost.

It's easy to do business with U.S. . . . easy to get the right equipment and the right assistance. U.S. Radiator air conditioning experts are located throughout the United States. For the name of the one nearest you, or for further information on the U.S. air conditioning line—write today!

Watch for news from  
"Air Conditioned Village"

U.S. Radiator is proud that its equipment has been selected for testing at "Air Conditioned Village," Austin, Texas. Watch for the results!

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OVER HALF A CENTURY A GREAT NAME IN HEATING  
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## Refrigerated, Automotive AIR-CONDITIONING

### COMPLETE KITS

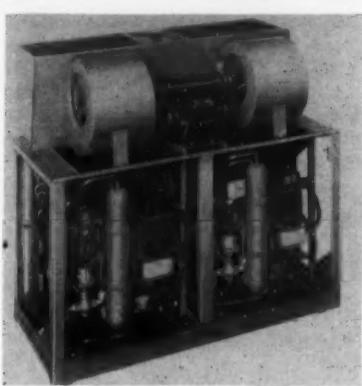
Now available for Cadillac-Oldsmobiles and Fords

WHILE THEY LAST—SPECIAL INTRODUCTORY PRICE

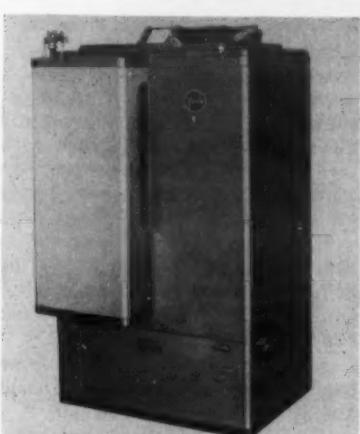
OLDSMOBILE UNITS ONLY - \$220<sup>00</sup> F.O.B.  
TOLEDO

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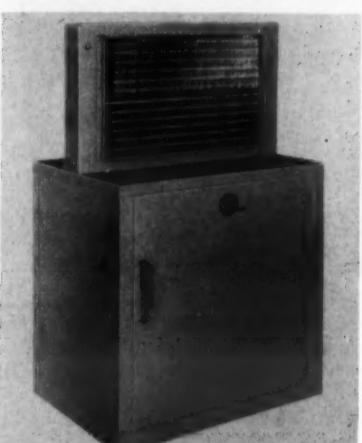
KOOLRIDE, INC. 3745 HAVERHILL DRIVE, TOLEDO 12  
PHONE KLONDIKE 4810



"Twin" air conditioner, 1 1/2-hp. console.



York gas-fired year-round air conditioner.



Yorkaire sealed circuit conditioner.

TYPICAL OF THE VARIOUS TYPES of residential air conditioners available today, as described by M. S. Lebair of York Corp., are these York units. Upper left is a console unit of 1 1/2 and 2-hp. capacities that can be installed in one room to cool a small apartment. It has two separate refrigerating systems. Lower left is an air-cooled self-contained air conditioner that can be installed in conjunction with an existing furnace for year-round air conditioning. Above is a 2-hp. air conditioning unit combined in the same package with a gas furnace for year-round operation.

## Home Cooling Market Potential--

(Concluded from preceding page) public at large if they will advise their friends in this regard.

Residential air conditioning is very simple if its installation is made by authorized exclusive representatives of old-line air conditioning manufacturers."

In the course of his talk, Lebair explained that V. T. Kartorie, who heads market research at York, had developed a state climatic factor applicable to cooling that will help determine what percentage of national sales an individual state should get.

Florida, he said, is taken as the base or "one," and other states range downward from there to a low of .075 for Nevada.

Pennsylvania, right in the midst of the temperate zone, comes up with a .494," Lebair continued.

Other factors used by York's market research department in developing shares of potential nationally are population, disposable income estimates, retail sales estimates, which we weight at 2, 5, and 3, respectively.

In carrying this weighting through, Pennsylvania has a factor of 6.96% of the total national market.

Now let's take that factor and compare it with some other very pertinent statistics having to do with residential sales in this area. First, that of the number of dwelling units, and nationally Pennsylvania has 6.6%, but when we exclude the farm residences that comes to 7.2%.

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## Unarco Cooling Unit for Use with Warm Air Furnaces Available In 2 or 3-Ton Sizes

CHICAGO—A new residential and commercial air conditioner, designed for use with any type of warm air furnace, has been placed in production by the Union Asbestos & Rubber Co. here.

Known as the Unarco "FAC," it is available in two and three-ton capacities. The refrigeration unit can be connected either to a cooling tower or normal water supply.

Because the new unit is designed to house its own fan, if desired, it can be used in connection with a gravity-type warm air furnace, as well as a forced-air system, according to Chester S. Stackpole, general sales manager of Unarco's heating and cooling division, who said:

"Installation of the FAC with a gravity type furnace automatically provides the equivalent of a year-round forced-air system.

"It is only necessary to remove the existing floor face plates and replace them with standard air conditioning grilles.

"The fan in the FAC unit can supply warm air in winter from the regular gravity furnace."

The change in grille, he pointed out, is all that is required to increase the "throw," or velocity of air coming from the opening. He explained: "The normal grille for a gravity furnace is so large that

the cold air would merely spill into the room, roll across the floor, and enter the cold air return.

"By decreasing the grille size the cold air is forced to the ceiling, circulates throughout the room, and effectively air conditions it.

"The fact that the FAC also is equipped with a filter means that whether it is used for heating or cooling with this type system, the house will remain cleaner."

Use of the unit with a modern forced-air heating system, he said, requires only a simple connection to existing ductwork.

The four-row copper cooling coil and aluminum fins, he continued, permit the new Unarco air conditioner to be operated with low air velocity thus insuring maximum removal of humidity.

Stackpole said: "The heavily-insulated cabinet and rubber and spring mounted compressor, along with vibration eliminators installed in the refrigerant lines, provide quiet operation."

The two-ton unit, he said, has a capacity of 24,000 B.t.u. per hour, while the three-ton model is rated at 36,000 B.t.u.

The Unarco FAC, Stackpole pointed out, can also be installed in shops, display rooms, and small warehouses where warm air heating is utilized.

## Curtis Elected To Head Blower Mfrs. Group

CHICAGO—New officers elected at the annual meeting of the Air Conditioning Blower Manufacturers Association held recently at the Edgewater Beach hotel here are Walter A. Curtis, Peerless Electric Co., president, and Homer F. Brundage, The Brundage Co., vice president. F. W. Brundage of The Brundage Co. will serve as secretary-treasurer.

The association, composed of manufacturers of blowers for heating and air conditioning systems, heard a report from Engineering Committee Chairman Gary Baker, Viking Air Conditioning Div. of the National Radiator Co., on projects undertaken in the past year.

These projects include (1) completion of a method of determining pressure losses through air conditioning apparatus, (2) development of a unified method of test procedure, (3) development of a unified method of designating blowers and blower parts, (4) completion of a set of installation and service instructions for blowers used in heating and air conditioning.

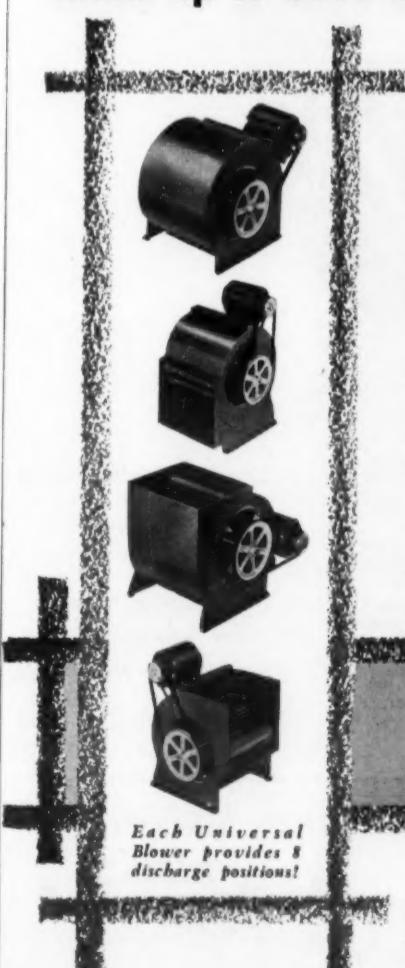
Heading the engineering committee of seven members for the coming year will be R. D. McCallum, Peerless Electric Co. The publicity committee, also composed of seven members, will have as its chairman Homer Brundage of The Brundage Co.

## This Wraps It Up in One Neat Package!

# Brundage

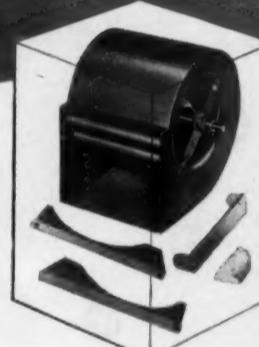
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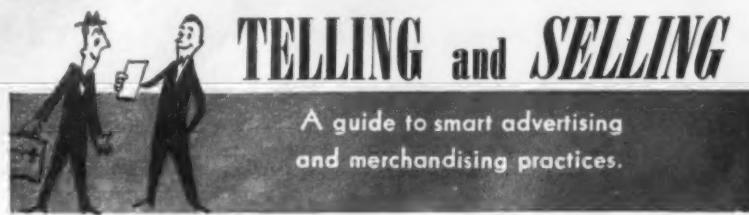
SAVE TIME. Not only in ordering, but all through your manufacturing operations, you'll find that handling and installation is faster . . . saving time that is actually dollars in your pocket.

CUT YOUR INVENTORIES. You'll free capital that's normally tied up in inventory and stock will require less space. Brundage Universal Blowers pay big dividends at every step of the way.

YOUR SAMPLE BLOWER is just a phone call away. Ask for the sizes you want and prove Brundage superiority to your own satisfaction in your own laboratory.



**THE BRUNDAGE COMPANY**  
North Park St. Kalamazoo, Michigan  
Telephone 2-0251



A guide to smart advertising and merchandising practices.

This series of articles comprising ideas and principles for the small retail or manufacturing business is written by James D. Woolf, who was for more than 20 years a vice president and director of J. Walter Thompson Co., one of the largest advertising agencies.

By James D. Woolf

### What Happens In Your Store Can Determine The Pulling Power of Your Advertising

Recently I fell to thinking about a pleasant experience I had a couple of years ago. I have never forgotten it because it is one of those things that happen all too infrequently.

In search of an extra-nice watermelon, I saw some of the fruit on display in the window of a little side-street grocery in my town. I explained to the proprietor, a fellow by the name of Chuck Monroe whom I knew only slightly, that we were having company for dinner that night and would he please pick out for me a prize specimen. He loaded into my car one he thought was just right.

Imagine my surprise when, two hours later, just before dinner, my doorbell rang—and there was my watermelon man!

"I've been fretting about that

#### WE ALL LIKE TO FEEL IMPORTANT

Naturally I was pleased to have a better melon. But what pleased me most, to be honest, was that my guests were obviously impressed. Clearly I was a person of importance to rate such special attention! That, as I say, was a couple of years ago; Chuck's store is much bigger now, and we deal with him regularly.

There is no doubt about it—most people cherish above almost anything else the feeling of importance.

Ralph Hitz, a noted hotel man, discovered early in his career this

great secret about human nature. He learned that his guests yearned—unconsciously perhaps—to be big shots, to be spoken to deferentially.

somebody important, I thought.

But the big surprise came later. After I selected a bag I liked—a purchase of some \$80—I asked the clerk to ship the bag to my home C.O.D. I had very little cash with me, and since I was a complete stranger to the store I hesitated to ask him to accept a check.

"Take the bag with you if you like, sir," said the clerk. "I'll be delighted to accept your check." Obviously, I told myself, I must have an honest face.

A week later came an even bigger surprise. The clerk phoned me at my home to ask me if I was satisfied with my purchase. "I just want to be sure," he explained. "We don't want any unhappy customers."

#### YOU ARE NOT ADVERTISING TO STRANGERS

Now the real point of the episode is this: Ever since this flattering experience, I have been keenly conscious of this store's advertising, and regularly I read or scan all of it that falls under my eye. And already it has paid off for the store. Last week, after reading one of its ads, I took myself into the store and bought a brief case.

Now here's what I am getting at: If you are a local advertiser, using your newspapers and perhaps other media week in and week out, it is not unlikely that 75% of the people who see your advertising have been in your place of business at one time or another. This is especially true if your store is situated in a town or city of medium size.

If their memory of what happened to them on the one or several occasions they dealt with you is pleasant and flattering—if you took the trouble to make them feel important—the probability of your advertising being read and acted on favorably is multiplied many times.

A business friend of mine moved from the east recently to a small city on the Pacific Coast. He brought his factory with him, and he gave employment to 50 or 60 people. It seems that he went into the city's largest bank and opened an account for his firm with an initial deposit of \$30,000, plus a \$600 deposit for his wife's personal checking account.

Next day the bank sent a lovely bunch of roses to his wife, to-



Hotels give customers red carpet treatment.



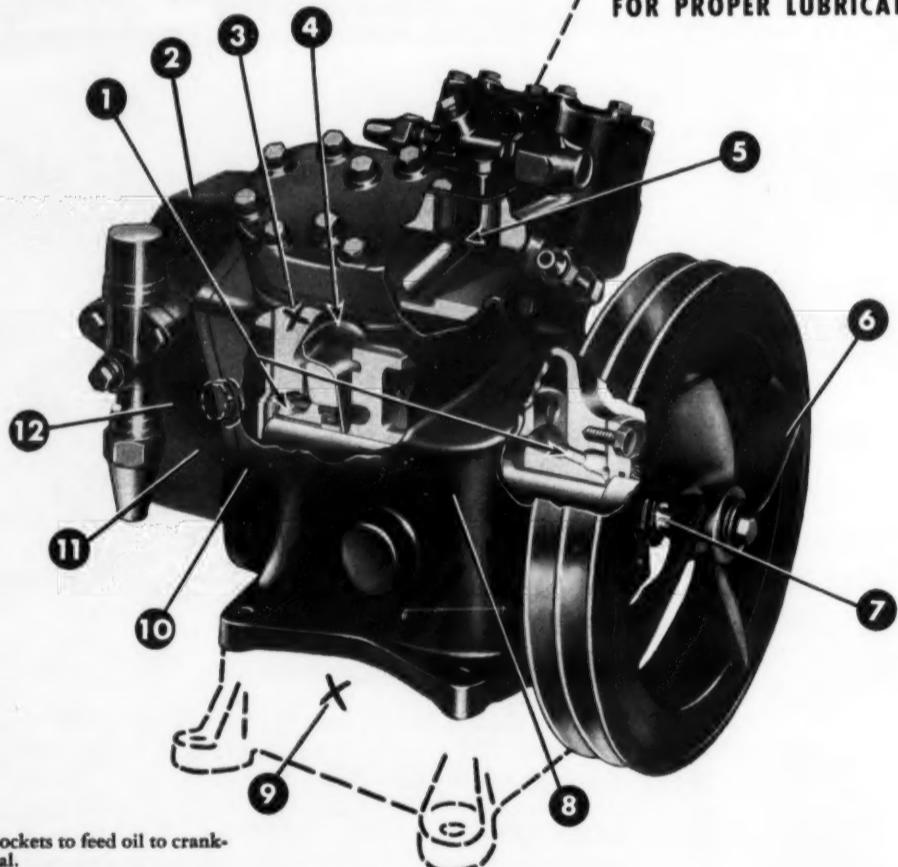
Greeting customers by name makes them feel important.

gether with a gracious thank-you note. A day or two later, my friend, his heart warmed by his wife's roses, walked into the bank bent on a minor banking transaction. Both the doorman and the cashier greeted him by name, and the president hurried out to bid him good day. Ergo. My friend was important!

My friend assures me this bank did not turn on the charm just for him; he says he got the standard treatment. I hear, from other sources, that this bank gets fine results from its advertising of its several services. I think the reason is the fact that the people like this bank—and they like it because it makes them feel important. Hence its advertising is noticed—and believed—and remembered—and responded to. That's what I am told, anyway—and it makes common sense to me.

## Tecumseh's NEW VFT completely redesigned... to give you all these improvements

THE ONLY CONVENTIONAL  
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FOR PROPER LUBRICATION



1. Special oil pockets to feed oil to crank-shaft and seal.
2. Screen in suction chamber.
3. Check valve eliminated.
4. Simple slinger type oil system. No mechanical parts to wear out.
5. Oil pickup tube in discharge muffler chamber to prevent oil accumulation.
6. Blades incorporated into spokes of flywheel. Air movement is directed over seal and crankcase by cast-in shroud. Improves water cooled application.
7. New long-life seal designed for higher temperatures.
8. New type rods to maintain out-of-round limits.
9. Sump is eliminated. Reducing overall height.
10. Centrifugal force positive lubrication through crankshaft to rods, bearings, pistons, etc.
11. Tank acts as oil reservoir when starting, making oil charge less critical. Provides simple method of returning oil to crankcase during operation.
12. Oil pump eliminated, reducing possible mechanical failure and improper lubrication.

- Minimum recirculation of oil
- No high side oil separator
- No oil trap
- Will operate successfully at low temperatures on deep vacuum and long suction lines

### June Air Conditioner Sales Set Record In West Penn.

PITTSBURGH—Unit sales of room air conditioners, clothes dryers, and automatic washers were the best for any June on record, the West Penn Power Co. reported recently on sales in its territory.

Other major appliance sales, however, were just over or below those of June, 1953.

Comparative unit sales for June and the same month last year are as follows:

Appliance	June 1954	June 1953
Refrigerators	1,619	1,731
Freezers	416	447
Room Coolers	493	298
Ranges	751	811
Garbage Disposers	20	31
Dishwashers	52	48
Clothes Dryers	260	212
Ironers	64	76
Automatic Washers	536	426
Conventional Washers	1,064	1,111
Water Heaters	381	374

### Hotel To Check Popularity Of Air Conditioned Rooms

PORTSMOUTH, Ohio—Announcing completion of the air conditioning of 48 rooms in the Hurth hotel, Ken F. Hull, manager, said that "if this proves popular the entire building will be air conditioned."

All of the hotel's fourth, sixth, and eighth-floor rooms have been provided with 1/2-ton air conditioners under a \$25,000 project carried out as a joint venture of Hurth Hotel Co., local owner of the building, and American Hotels Corp., operator of the hotel.

The hotel maintenance crew directed by Roy Sweeny, chief engineer, installed the units. Prior to their installation, electrical wiring of the building was renewed by Brush Electric Co. at a cost of \$15,000. Ohio Power Co. set up a new control panel to handle the electrical facilities and a new transformer will be erected this fall, according to the announcement.

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ssors for the refrig-  
eration industry.

## One-Piece, Low-Cost Gauge Tells When Air Conditioning Filter Needs Changing

PITTSBURGH—A "one-piece" low-cost filter gauge for forced air heating, cooling, and ventilating units has been introduced by Bacharach Industrial Instrument Co. here.

This gauge determines the filter's resistance to free passage of filtered air as well as its capacity to clean air, and automatically indicates when the filter has become dirty and should be replaced.

### SIMPLICITY OF INSTALLATION AND OPERATION

Outstanding feature of the gauge is its simplicity in design, installation, and operation. It can be mounted merely by drilling four  $\frac{1}{4}$ -in. holes through the wall of the blower chamber, then pressing a pronged hook on the instrument's back through two of the holes.

The gauge does not require a connection across the filter, and it uses no electric current. It is activated directly by the negative pressure present in the blower chamber, which is slight when the filter is clean, but increases as the filter becomes dirty.

Two of the four holes drilled in the blower chamber wall are the orifices through which this negative pressure exerts its pull on a plastic indicating vane within the gauge. Hinged at its back end, the vane can rotate from a horizontal position (indicating that filter is sufficiently clean), to a vertical position (indicating that the filter is dirty).

### HOW VANE IS HELD IN POSITION

The indicating vane is held in horizontal position by magnetic attraction plus the weight of an "O" shaped vane which is hinged on a common axis with the indicating vane.

Setting the gauge to the requirements of different filters and



installations is accomplished by means of a permanent magnet. This magnet, positioned directly under a metal disc in the center of the indicating vane, is mounted on the end of an adjusting screw.

After its installation, and with a clean filter in the unit, the gauge is readied for operation in three simple steps:

### THREE SIMPLE STEPS

(1) The "O" shaped vane is turned upright, by revolving the knurled knob at the left of the viewing window, to remove its weight from the indicating vane.

(2) The magnet, from a full "in" position, is gradually screwed out until its force is just offset by the negative pressure in the blower chamber, causing the gauge's indicating vane to flip up, exposing the "renew filter" signal.

(3) Both vanes are then rotated back to horizontal position by revolving the knurled knob downward.

Both vanes will remain in this position until the negative pressure in the blower chamber has increased, as a result of dirt accumulating in the filter, to the point where it is sufficiently great to

lift the combined weights of "O" shaped metal vane and plastic indicating vane, and to overcome the attraction of the permanent magnet.

This factor has been carefully calibrated so that the warning signal will appear approximately one week before the filter requires replacement, thus eliminating the need for emergency service.

This filter gauge, according to its manufacturer, can help to reduce fuel waste, in a forced air heating installation, up to 30%. It is also claimed that the instrument aids in saving cleaning time and costs, and in preventing overheating of the furnace which reduces its service life and creates a serious fire hazard.

By the same standards, the gauge is of equal, if not greater, value on an air cooling and conditioning installation, where filter efficiency is an extremely critical factor.

Manufacturer states that gauge normally more than pays for itself in one season. It is made of plastic and has only two moving parts. Dimensions are 4 in. high by  $2\frac{1}{2}$  in. wide.

### A.R.A. Mfg. Appoints Agency In St. Louis

ST. LOUIS—D-C Air Conditioning Co. here has been appointed area distributor and service agency by the A.R.A. Mfg. Co., Fort Worth, Texas, maker of "Refrig-air" auto air conditioners.



## Seven Charts Show Pressure Drop of 'F-12' And 'F-22' In Various Size Evaporators

SEATTLE—Seven charts showing pressure drop for "Freon-12" and "Freon-22" flowing in Type L copper tubing of various sizes in evaporator circuits as well as suction, discharge, and liquid lines have been developed by W. L. Holladay of Holladay & Westcott, Los Angeles firm of consulting engineers.

Holladay presented the charts and reviewed the assumptions and calculations involved in developing them at the 41st semiannual meeting of the American Society of Refrigerating Engineers, which was held here recently.

It is believed that the charts giving pressure drop in evaporators are the first such to be published.

"While it is certain that work has been done by many coil manufacturers on evaporator pressure drop, nothing has been located in

the literature," Holladay comments.

First three charts in the series show the pressure drop per 100 ft. of length for "Freon-12" in evaporator circuits, suction lines, and discharge lines, respectively, at  $-40^{\circ}$  F.

Fourth chart shows pressure drop per 100 ft. of length in liquid lines at  $100^{\circ}$  F. for both "Freon-12" and "Freon-22."

Last three charts cover the same range of data as the first three, but for "Freon-22," according to Holladay.

Range of tubing sizes in the evaporator charts for both refrigerants is from  $\frac{3}{8}$  in. to  $\frac{3}{4}$  in. o.d.; in suction line charts, from  $\frac{1}{2}$  in. to  $6\frac{1}{8}$  in. o.d.; in discharge line charts, from  $\frac{1}{2}$  in. to  $3\frac{1}{8}$  in. o.d.; in liquid line chart, from  $\frac{1}{4}$  in. to  $2\frac{1}{8}$  in. o.d.

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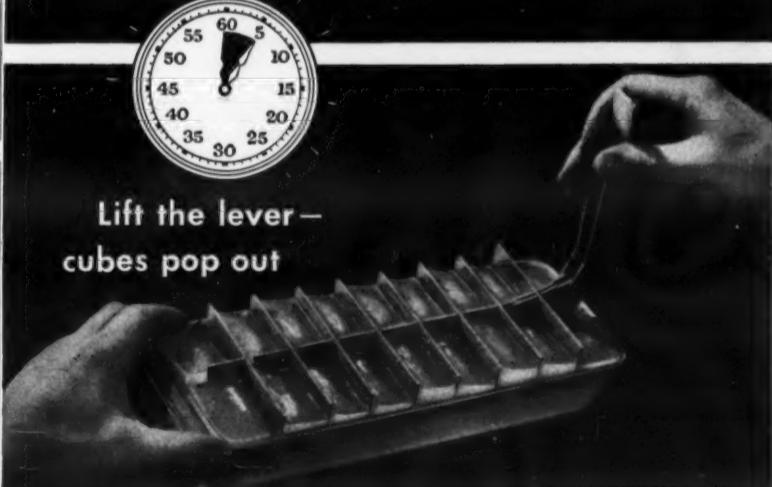
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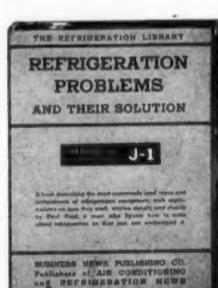
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## Lawrence Tech To Add Day Plastic Ceiling Forms Course In Refrigeration

DETROIT—A daytime course in refrigeration and air conditioning will be offered starting in September by the Lawrence Institute of Technology here, George H. Clark, chairman of the air conditioning department, announced recently.

The new course will cover all phases of refrigeration, heating, ventilating, sheet metal layout, heat pumps, and air conditioning. Clark said. The entire program, approved for veteran training, can be completed in as little as 18 months on a daytime basis, he added.

The course is already being offered to evening school students and can be completed on a part-time basis in three years, Clark said.

Clark, who was formerly director of the Detroit Air Conditioning Institute, said that the course is essentially the same program as taught at the institute.

Lawrence Institute of Technology is located at 15100 Woodward Ave. here.

### MORE INFORMATION?

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## Plastic Ceiling Forms Air Conditioning Duct

DENVER—An 1,860-sq. ft. glow-light plastic ceiling installed as part of a \$30,000 remodeling job at the Ken Grill here has transformed the area above it into one huge air conditioning duct.

Max Heller and Leo Skull, owners of the Ken Grill located in the Ken building, put in the plastic ceiling to cover up the maze of ducts, wiring, pipes, and lighting fixtures that were installed below the original ceiling.

Into the space created by the plastic ceiling, a 10-ton air conditioner discharges cool air. The air spreads evenly down the 100-ft. length of the building and cools the kitchen, Sky Room lounge, restaurant section, and bar.

The ceiling is composed of white plastic blocks 36 in. long by 12 in. wide. Each block is pierced by hundreds of  $\frac{1}{2}$  in. square holes in a waffle grid pattern. It is through these holes that the chilled air seeps into the spaces to be conditioned.

However, Heller said, the owners found that the output of the air conditioner had to be increased by 30% in order to overcome the back pressure caused by the plastic ceiling.

This was solved by installing a motor of 35% more power output in the blower system, he explained.

## U.S. Government Contracts Procurement Information

### GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Business Service Center, General Services Administration, Region 3, 7th and D Sts., S.W., Washington 25, D.C.	2 ea.	(4H-48391-R)	30 Aug 54
Cooling Towers	2 ea.	(4H-48391-R)	30 Aug 54
Air Condns. Pkg. Type	2 ea.	(4H-48391-R)	30 Aug 54

### CONTRACTS AWARDED THROUGH AUG. 10

Headquarters, Air Materiel Command, Wright-Patterson Air Force Base, Ohio
Dehumidifier—Spare parts—50 ea., \$56,865—Ellis and Watts Products, Inc., 215 E. Second St., Cincinnati, Ohio.
Purchasing Office, Rock Island Arsenal, Rock Island, Illinois Necessary services to install a low temperature room, complete in bldg. No. 110 RIA in accord w/spec. RIED 2242 dtd 10 May 1954. (Inv. No. ORD-11-070-54-322)—1 Job, \$40,554—Westerlin and Campbell Co., 1113 Cornelia Ave., Chicago, Illinois.

## Glass Fibers Sets Up 11-State Western Division

TOLEDO—Establishment of the western division of Glass Fibers, Inc., with full responsibility for administrative, manufacturing, and sales activities in 11 western states, was announced recently by Randolph H. Barnard, president of the firm.

M. Dean Worcester, vice president of the company, has been appointed general manager of this new western division with headquarters in Burbank, Calif. Worcester had formerly been general manager of the firm's Burbank Div. which now becomes a part of the larger divisional operation.

John T. Podorean has been advanced to general sales manager of the western division. He had formerly held the same post in the Burbank Div.

Manufacturing and warehouse facilities of the newly-created western division are located at Burbank in a new 22,000-sq. ft. building at 3115 Van Owen Blvd. This structure was recently completed and replaces the former building completely destroyed by fire in October, 1953.

In addition to the aircraft insulation components, the Western Div. sales organization will market all products of Glass Fibers, Inc.

### G-E Heating, Cooling Dept.

#### Names Dealers In Ida., Nev.

BLOOMFIELD, N. J.—Appointment of Warberg Brothers, Twin Falls, Idaho, as a retailer-wholesaler for G-E home heating and cooling products has been announced by the General Electric Co.'s Home Heating and Cooling Dept.

Also named was the B. M. McDonald Refrigeration Service Co. as a retailer for G-E home heating and cooling products in the Las Vegas, Nev. area.

#### Trane Appoints Richards Staff Employment Chief

LA CROSSE, Wis.—Appointment of William E. Richards as manager, staff employment, was recently announced by President D. C. Minard of The Trane Co.

Richards has a B.A. degree in economics from the University of Wisconsin. He is currently completing his master's degree in business administration at Northwestern university.

Minard said Richards' broad experience before joining Trane should prove extremely helpful in his employe recruiting work with colleges and universities throughout the country.

#### Three of a Kind

NASHVILLE, Tenn.—The Noel hotel has completed arrangements to install additional air conditioning so that all 250 rooms will be 100% air conditioned soon.

The Noel air conditioned half its rooms about three years ago. This will be the third completely air conditioned hotel here. Hermitage and Andrew Jackson are the others.

## Chattanooga Church Votes For Air Conditioning

CHATTANOOGA, Tenn.—The congregation of Central Presbyterian church voted July 25 to launch immediately a remodeling and expansion program estimated to cost \$150,000, which will include air conditioning of the entire plant.

According to Architect Percy B. Shepherd, the plans are to enlarge the present sanctuary to accommodate another hundred or more worshippers, and to connect by a breezeway the original church building and the new Tom McCallie Memorial educational building.

The air conditioning equipment (Carrier) will be installed by J. W. Brooks & Sons. Work begins immediately.

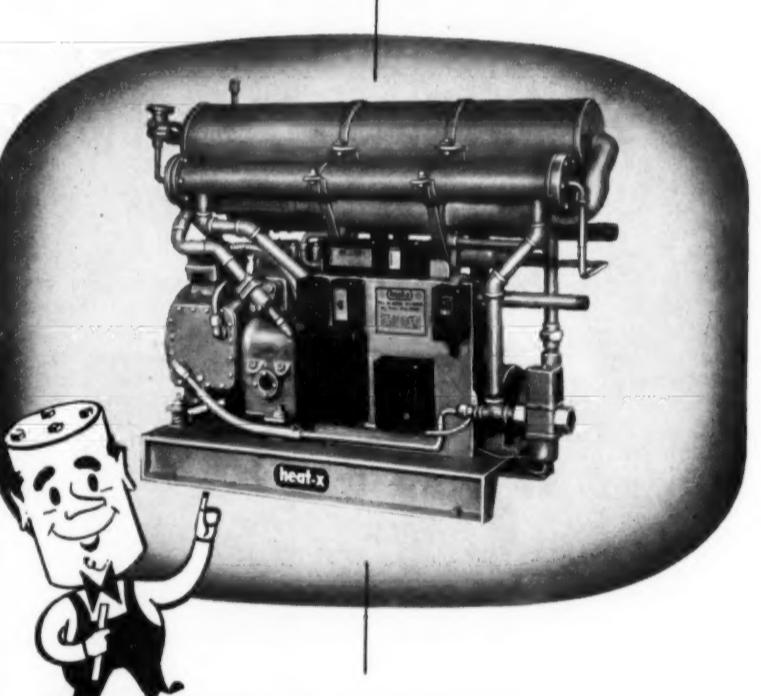
## Train Cooling Breaks Down, Old Friendship Breaks Up

CHICAGO—The air conditioning system of a Rock Island railroad commuter train broke down recently, breaking up—at least temporarily—a long friendship.

Michael Di Pirro and the conductor, J. Mulligan of Peoria, had been friends for years. But they got into an argument on a 100° day when the train cooling system conked out.

Di Pirro allegedly socked the conductor. Mulligan complained to the authorities. But disorderly conduct charges against Di Pirro were dismissed when the conductor failed to show up in Stockyards court. Di Pirro told Judge John R. McSweeney he was sorry and blamed it on the heat.

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## CRMA Reports on 6-Month Sales--

(Concluded from Page 1, Col. 5) ally agreed, should be at least as good—some predicted it would be materially better—as the first period. Among the reasons given for this optimism by various members of the panel assigned to analyze the industry's prospects is a still vigorous trend toward modernization in food stores, eating establishments, and among other segments of the market, plus the development of many new communities as a result of population growth and shifts, a further expansion of supermarket and chain store operations, the establishment of many new shopping centers, as well as important changes in food distribution methods and in consumer buying habits.

### FROZEN FOOD BOOM SHOWS NO SIGN OF SLOWING

Among the latter are the boom in frozen foods, which shows no signs of slowing down, greater emphasis than ever on "eye appeal" and other impulse buying stimuli provided by newer techniques in display refrigerator designs and styles, the increasing popularity of prepackaged self-service foods, notably fresh meats, and a further expansion of the take-home meal idea being vigorously promoted in the restaurant field as an "antidote" for the lure of television. The food distribution picture is constantly changing, it was emphasized, and in recent years certainly, most of these changes have meant added refrigeration sales.

### AHRENS NAMED PRESIDENT

The annual election of officers resulted in the unanimous selection of the following, who will serve until August, 1955: president, Edwin B. Ahrens, The C. Schmidt Co.; vice president, William J. Stelpfug, Hussmann Refrigerator Co.; treasurer, William T. McCall; with Joseph W. Krall, Tyler Refrigeration Corp., and Reese L. Harrison, the retiring president, as directors and members of the executive committee.

It seems that "Mrs. America" has become so color conscious that in addition to demanding the proverbial purse to match her hat, shoes to match her purse, and a suit to match them both—she is now insisting that her sales appreciation for pork chops or broccoli will be enhanced by a color scheme for the refrigerated fixtures in which they are displayed.

Although it is not a new idea, having been tried out from time to time in the past, and never advancing beyond the gimmick stage, many food store operators are specifying that their new fixtures be

finished in any of a wide range of hues, on the theory that their distinctiveness will attract more patrons.

As yet only a few manufacturers are offering optional color choices, other than the traditional white, and are making an extra charge therefor. Others are dubious about there being any permanence to this idea and are marking time, but to be on the safe side have barrels of colored frit or enamel in their storerooms.

### INVENTORY TURNOVER RATES

A survey of inventory turnover rates on an annual basis for the past several years was a leading program feature. William B. McMillan, president of Hussmann Refrigerator Co., led the discussion of what he termed "one of the most important ingredients of profit-building, yet the most neglected." The 1954 figures showed a drop from the 1953 composite for the group, which McMillan said he considered highly disturbing.

McMillan strongly urged the members to take necessary corrective measures. There is very little finished goods in manufacturers' inventories, the discussion showed, and the industry has continued its traditional policy of limiting dealers' inventories to the quantities needed for normal demand conditions. Indeed, it was reported, the average rate of stock turnover among the industry's dealers last year was 6.47 times, which is considered to be a reasonably satisfactory profit factor.

Among other discussion leaders on the program were Robert L. Tyler, president, Tyler Refrigeration Corp.; William T. McCall, president, McCall Refrigerator Co.; Karl Weber, president, Weber Showcase & Fixture Co.; and J. W. Bostwick, vice president in charge of sales, McCray Refrigerator Co.

### PLANT TOUR, CONFERENCE SET FOR NOV. 18-19

It was announced that the next in the association's series of annual plant tour and production conference meetings will take place in Atlanta, Nov. 18-19, with the Warren Co. as the host member. J. D. Harris, president of the organization, is in charge of the arrangements.

The meeting will feature a tour of the Warren factory by members' key production and technical men from throughout the industry, followed by an exchange of ideas on processes and techniques for cost-reduction and product improvement.

## St. Louis Water--

(Concluded from Page 1, Col. 4)

"Present water rates were designed for year-round use of water and did not contemplate the poor annual load factor pattern of air conditioning."

"Unless this class of use is made to pay its way, water rates for all classes will have to be increased as water supply facilities are constructed to handle increasing summer air conditioning loads."

Weir went on to say that approximately 6,000 tons of water-wasting units are now connected to the St. Louis County Water Co.'s system and used an estimated 15% of the maximum day pumping this summer. He added that numerous units undoubtedly will be installed in the future.

"The annual surcharge of \$40, while equitable," he asserted, "will be more than most customers will be willing to pay for cooling water, since a more economical alternative is available."

### Reno Joins Louisville Firm

LOUISVILLE, Ky.—Marvin F. Reno, manager of the Indianapolis branch of the F. H. Langenkamp Co. in the late 1940's, recently announced that he has returned to the industry as manager of the refrigeration department of the Mill & Industrial Supply Co., refrigeration and air conditioning supplies wholesaler here.

## Commercial Refrigeration

### Supermarket Chains' Air Conditioning--

(Concluded from Page 1, Col. 2) food preservation," Taylor commented.

"We know, for example, that you have to be very careful about not blowing air into open cases. Also, we know that we can take credit, as it were, in sizing an air conditioning job for the cooling effect provided by open cases."

"When making a complete load calculation on a supermarket, we allow 0.2 ton of air conditioning load as being picked up per 1 hp. of load on open cases remotely connected. This, of course, does not apply to self-contained equipment."

With a record of 50 supermarket air conditioning installations behind him in the past three or four years, Taylor knows that this 0.2 ton per 1 hp. rule of thumb works out.

Most of the installations that have been made for the Hy-Vee chain have consisted of two 10-ton Typhoon package conditioners. Some of the stores, however, could provide only enough space for one unit. Cooling

towers are used for these jobs.

The Hy-Vee company, according to Taylor, plans to air condition its present stores "as fast as possible" and all new stores that it builds.

Using two package units gives a form of zone control, Taylor also points out.

"Generally we try to place one unit in the front of the market in line with the checkouts. Other unit goes in the back section of the store, on the opposite wall, a few feet in front of the self-serve meat case lineup."

That arrangement will be used in the five Thriftway installations, he said. These stores are almost identical in size and layout, each having a sales area which measures just about 72 ft. by 97 ft. Two 10-ton units will handle the air conditioning in each of these markets.

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for manufacturers of small refrigeration fixtures.

**COMPACT POWER UNITS**  
Single-cylinder  $\frac{1}{4}$  through  $\frac{1}{2}$  HP —  
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### TEMPERATURE RECORDERS

## Refrigeration Problems and their solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

### Analysis of Novice's Installation

Although he disclaims being a refrigeration man, the reader from whom we received the following letter a few weeks ago seems to have done a rather good job for a novice:

"Enclosed find two photographs of an air conditioning system which I installed. I would like to point out that I am not a refrigeration man. It was only after reading several of your articles in AIR CONDITIONING & REFRIGERATION NEWS, and pamphlets on the subject, that I decided to tackle the job shown. It is my hope that your knowledge will fill in where I lack experience.

"I have had the above machine running about 30 minutes. After that time I noticed that the oil level in the crank case had dropped out of sight. I realize that I will have to add oil, but will the piping

system allow the oil to return to the compressor?

"As you have probably noticed, the suction line ties in at the top of the accumulator on the coil as placed by the coil manufacturer. I would have assumed the connection should have been at the bottom. I have assumed the coil is right side up. The refrigerant is boiling up through the coil.

"No low velocity oil trap was installed in the suction line, as the over-all rise was only four and a half feet, and I didn't believe it necessary. The large 'U' in the refrigeration lines is simply to act as a heat exchanger and to minimize the compressor vibration to the coil.

"If the crankcase is refilled with oil, will it cycle through the system, or be trapped in the coil?

"The above-mentioned compressor is believed to be a type 'N' Universal operated with a 3-hp. motor.

"Please note the equalizer line of the expansion valve. Is it correctly located or is it critical?"

**REPLY:** As nearly as can be ascertained from the small photographs that were enclosed with your letter, you seem to have done very well for one who is "not a refrigeration man." However, there are some things that could be improved. But, first, as to whether the connection should have been at the top or bottom.

It is customary in air conditioning practice to feed the coil semi-flooded, rather than the "dry" or down-feed that is commonly used on store fixtures and similar installations that operate on a self-defrosting cycle. So you were correct in mounting the coil in the position shown.

This appears to be a four-row coil with four cross-feed circuits having a common suction header. In order for all four of the circuits to be equally fed with refrigerant, they must have the same pressure drop through each circuit of the coil and through each of the four tubes from the distributor to the coil. Thus, each of these tubes must be the same size tubing and

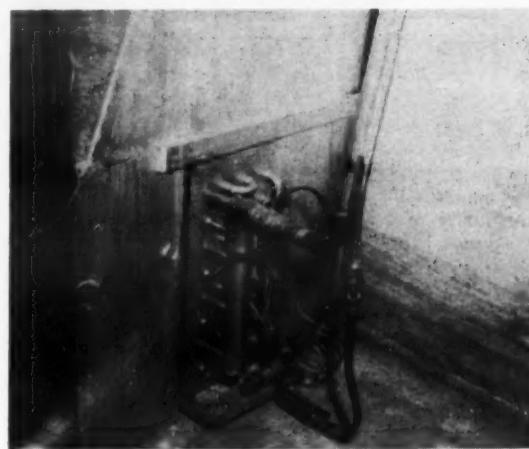


FIG. 1—TEV Equalizer line location OK, but feeler bulb should be clamped to horizontal portion of suction line, and insulated against warm room air. Sight glass should be in liquid line ahead of drier.



FIG. 2—Drier should be in vertical liquid line, although it is probably doing a reasonably good job where it is shown. It appears that refrigerant is being dumped into the suction as a liquid. Not good practice, as it causes "oil slugging." Long, high U lines could probably be eliminated and improve oil return.



### "Pressure will be back to normal in a few minutes"

Cooling towers, "evaps" and condensers get their headaches, too. One symptom is high head pressures, usually caused by accumulations of scale, slime and algae in the water-cooling equipment. Cooling efficiency drops—costs go up. A good remedy is a stiff dose of Solvex\* Cleaner Tablets, which can be used while the machine is working. Head pressures usually return to normal in 15 to 45 minutes.

The way to prevent such troubles is to use Solvex Maintenance Tablets regularly. Solvex is quite

safe—no acids or alkalies to harm the operator or ruin expensive equipment. Solvex Cleaner and Solvex Maintenance Formulas also are obtainable in granular bulk (grains) for larger jobs.

Virginia Smelting Company distributes two other Solvex products of interest to the industry. One is "CC" Coating, a waterproofing and rust-preventive compound—excellent for use where galvanizing has failed. The other is Ice Machine Cleaner Powder—for eliminating the lime, grease and dirt which

cause machines to turn out opaque, bad-smelling and bad-tasting ice.

See your wholesaler, or write to Refrigeration Division, VIRGINIA SMELTING CO., Department 63, West Norfolk, Va.

\*A product of Chemical Solvent Co.

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*Chemicals*

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the same length. From the photograph you seem to have done this.

**Expansion Valve Bulb Location.** The feeler bulb of the thermostatic expansion valve appears to be fastened to the upper part of the vertical suction header. This is definitely wrong. It is generally not good practice to attach the bulb of a thermostatic expansion valve to a vertical run of tubing.

Moreover, in this instance, there is the additional disadvantage that being mounted on the header it will tend to starve the coil. It should be clamped to the horizontal part of the suction line as near the elbow as possible and still maintain good contact with the tube. Preferably, it should be mounted on the side of the horizontal tube rather than on the top or bottom of the tube.

To keep the bulb of the thermostatic expansion valve from being affected by the warm room air, it and the tube on which it is mounted should be wrapped with felt or glass wool of about  $\frac{1}{4}$  to  $\frac{1}{2}$ -in. thickness.

To keep this insulation from becoming water soaked from condensed moisture in the tubing, wrap the insulation with friction tape and cover it with hot pitch over the tape and down to the tubing. Thus the bulb is insulated and the insulation is kept dry.

**Better Oil Return.** Moving the expansion valve bulb as suggested will probably improve the oil return. Now, with a partially starved coil, the refrigerant is vaporizing and superheating in the coil itself so that it is not carrying the oil out into the suction line well enough.

Thus, the oil tends to stay in the coil, so not only is the capacity of the coil reduced because it is not being fully fed with refrigerant, but the coil's effectiveness is reduced by the excessive oil in the coil.

"Freon-12," methyl chloride, and to some degree, all of the halogenated hydrocarbon refrigerants mix freely with oil, so the refrigerant through the system normally has some oil absorbed in it. It gets this oil from the compressor, so when the installation is first started up the compressor can be expected to lose some of its oil to the system. Oil should be returning all the time but some of it stays in transit.

Watch the compressor oil level for the first day or two and add oil to the crankcase to make up for that lost to the refrigerant. There is no way to accurately pre-

dict how much this will be; just add whatever is required. However, on an air conditioning system one pint of oil added for each 10 lbs. of "Freon-12" in the system would not be excessive.

**Liquid-Suction Heat Exchanger.** After moving the expansion valve bulb, you will find that, due to the very short suction line, there may be a good deal of sweating of the suction line back to the compressor.

It would be very helpful to install a heat exchanger just beyond the elbow. This will dry the suction line and prevent dripping, and it will reduce the possibility of "wet" or even some liquid refrigerant getting back to the compressor and causing liquid slugging.

It appears that you have the liquid and suction lines soldered together so that you have some effect of heat exchange between the two. You can continue to do this even after the heat exchanger is installed.

**Equalizer O.K.** Your location of the equalizer connection is correct. Sometimes an equalizer tube is tapped into one of the passes of the coil. This is not good practice but may be acceptable if the coil has a pressure drop across it of only a pound or two.

However, most coils have more pressure drop than that, so it is better to connect the equalizer tube into the suction line leaving the coil so as to compensate for the pressure drop across the coil as well as the pressure drop across the distributor of the thermostatic expansion valve.

**Should Install Liquid Line Drier.** You appear to have installed a liquid line drier and that is good. It is true that on many air conditioning installations no drier is used. Just because there will be no freeze-up of the expansion valve is no reason to permit moisture to remain in the system.

Actually, corrosion due to moisture exists even though there is not enough moisture in the system to cause freeze-up. Corrosion is really more damaging to the system than expansion valve freeze-up, although perhaps not as inconvenient, and the effects of corrosion may not show up as soon as a freeze-up.

The drier should be mounted vertically in the liquid line so that the liquid feeds upward and vertically through the drier.

The three desiccants that are most highly regarded for liquid line driers are activated alumina, silica gel, and calcium sulphate.



## M-H Sets Up Nationwide Dealer Training Libraries

MINNEAPOLIS—Establishment of a nationwide network of training aid libraries as part of a program to help dealers, wholesalers, and builders better understand the operation of automatic temperature regulating devices is announced by the heating controls division of Minneapolis-Honeywell Regulator Co.

K. L. Wilson, division head, said the 24 U. S. and two Canadian training aid centers would provide company sales engineers with visual aid materials which could be used in meetings with customers for the announcement of new Honeywell products or discussion of problems.

Each center will be provided with Vu-Graph presentation kits on eight different types of Honeywell heating controls. Included will be Electronic Moduflow, summer-winter air conditioning, appliance controls, water heater controls, gas, oil, and electric heating controls, and electronic combustion regulators.

Demonstration boards will also be provided on which engineers can simulate typical service and installation complaints or demonstrate the operation of new devices.

Presentations are planned on basic electricity and its application to automatic controls and on merchandising and selling automatic temperature regulating equipment, he added.

The libraries will be in Cleveland; Cincinnati; Detroit; Pittsburgh; New York City; Union, N. J.; Boston; Syracuse, N. Y.; Hartford, Conn.; Philadelphia; Baltimore; Washington, D. C.; Chicago; Indianapolis; Milwaukee; St. Louis; Denver; Portland, Ore.; Minneapolis; Los Angeles; San Francisco; Atlanta; Dallas; Kansas City, Mo.; and Toronto and Calgary, Canada.

## 'Open-End' Mortgage--

(Concluded from Page 1, Col. 2) eligible, but mobile dishwashers would not. Neither would garbage disposers.

FHA officials said they are adopting this policy as one that will carry out the intent of Congress to limit insured advances to projects which would substantially protect or improve the basic livability or utility of the property.

FHA also ruled that the amount of the advance under an open end mortgage when added to the unpaid balance of the mortgage, shall not exceed the original principal obligation except when the advance is used for construction of additional rooms or other enclosed spaces as part of the dwelling.

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## Income Tax--

(Concluded from Page 1, Col. 3) treated, for purposes of this section, as if they included interest equal to 6% of the average unpaid balance under the contract during the taxable year.

"For purposes of the preceding sentence, the average unpaid balance is the sum of the unpaid balance outstanding on the first day of each month beginning during the taxable year, divided by 12."

However, the amount of such interest deducted cannot exceed the total amount of the carrying charges attributable to that year.

One of the advantages granted to the outside salesman is that he is now entitled to take individual tax deductions for business travel in addition to his standard deduction. This covers cost of gas and oil, auto repairs, and depreciation. Previously he could deduct these expenses from income only if he were reimbursed for them by his boss or if they were incurred while he was away from home overnight.

The other is that he can now take business expense deductions, such as the cost of meals, split commissions, etc. in addition to his standard deduction, in the same way as the "independent contractor" was authorized to do under the old law.

## Unarco Reports Profit, Cooling Div. 'Building'

CHICAGO—The Union Asbestos & Rubber Co. of Chicago has reported a net profit for the first six months of 1954 of \$291,119 as against \$147,576 for the same period in 1953, it was announced by Edwin E. Hokin, president.

Earnings of \$291,119 do not include a non-recurring profit of \$213,617 from sale of property.

Earnings per share, omitting the non-recurring profit, for the first six months of this year amounted to 61 cents compared to 31 cents for the same period last year.

The total net profit for the six months, including the non-recurring items, amounted to \$504,736.

Net sales for the first six months of 1954 were \$7,382,053 compared with \$5,753,327 for the first six months of 1953.

"It is interesting to note that sales, exclusive of the newly-created heating and cooling division, were ahead of 1953.

"Our entire sales effort has been stepped up and has shown fine results for the first half of the year. The heating and cooling division is still in the building stage and we anticipate that it will be some time before this operation will make any material contribution to our profits.

"However, heating and cooling equipment sales have been most encouraging. We have established offices in 56 cities handling our heating and cooling equipment in the past year."

### I-H Refrigerator Sales Up

CHICAGO—Refrigeration sales of International Harvester Co. for the month of July were up 23% over the same month of 1953, according to R. H. Burnside, assistant general sales manager in charge of refrigeration.

## Compact New 4-BROS. Unit Conserves Valuable Space!

Fits under any standard bar - Easy to reach - Less work

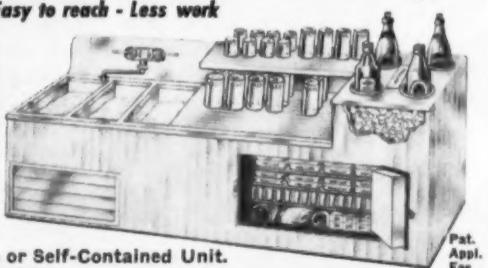
### COMB. 3-IN-1 SINK-FREEZER

Makes 200 lbs. of ice cubes in freezer with shelf for frosted glasses or foods. Stainless steel with 3 sinks—hot, cold and sterilized. Cocktail chiller with ice cube storage compartment optional.

5-6-7 or 8 Ft. Long—Remote or Self-Contained Unit.

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REFRIGERATION MANUFACTURING CO.

Exclusive Franchise available to dealers  
Write for Information and Free Catalogue  
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## 9th Refrigeration Congress Meets In Paris In '55 To Hear 'What's New'

PARIS, France—The Ninth International Congress of Refrigeration will be held in Paris from Aug. 31 to Sept. 15, 1955, the International Institute of Refrigeration announced recently.

Working sessions will be held in the conference rooms and lecture halls of the Sorbonne in Paris from Aug. 31 to Sept. 8. Visits and tours will be arranged from Sept. 9 to 15, the institute said.

The draft technical program for the Congress consists of four plenary sessions and a series of meetings by nine commissions covering various phases of the refrigeration art. All reports made to the commission must be original papers not previously published anywhere. They are designed to contribute new knowledge or critical evaluation to particular subjects.

Persons intending to submit papers for the Congress must send their contributions to the papers committee of the institute before April 1, 1955 and provide the committee with a 200-word abstract of the paper before Jan. 1, 1955. Papers are to be published in both English and French.

According to the draft program, the first plenary session will take up questions concerning pre-cooling under its wider meaning (cool-

ing of commodities before storing or transport) and regarding different methods (tunnels, cold stores, inside vehicles, etc.).

The second session will concern problems of education in refrigeration (present and future needs). The third session will cover air treatment in cold chambers (chemical composition of the atmosphere, relative humidity, deodorization, purification, etc.). The fourth session will discuss refrigeration as regards problems of nutrition and food hygiene.

The nine commissions that will discuss more specialized subjects are: 1. Scientific problems of low temperature physics and thermodynamics; industries using very low temperatures and rare gases.

2. Transfer of heat, thermal properties of materials, instrumentation, and insulating materials.

3. Design, construction, and operation of machinery for refrigerating and air conditioning plants.

4. Applications of refrigeration to foodstuffs and agricultural produce.

5. Cold stores and ice making plants.

6. Applications of refrigeration excluding foodstuffs and agricultural produce.

7. Refrigerated transport by land and by air.

8. Refrigerated transport by water.

9. Education.

The International Institute of Refrigeration, which is acting as general secretariat of the Congress, is located at 177 Boulevard Malesherbes, Paris 17.

## FTC Hearing--

(Concluded from Page 1, Col. 4) Farms, Carnation Milk, and Foremost Dairies have appealed the decision of FTC Hearing Examiner Everett F. Haycraft to reject the consent agreement they negotiated with Joseph Sheehy, director of the FTC's bureau of litigation. This was confirmed by the FTC.

He said that William Kerns, assistant director of the bureau, has moved that the commissioners not receive the appeal. He added that the commissioners are expected to go along with the recommendation. When asked about this, FTC officials would not comment.

FTC issued a complaint against eight large dairies throughout the country earlier this year charging unfair trade practices. Original hearing dates scheduled for this past summer were postponed.

Then the three dairies mentioned above negotiated for a settlement of the complaint. Their settlement agreement was rejected by Examiner Haycraft after Kromer, acting for RACCA, protested that the settlement would not eliminate the unfair practices charged.

## Time After Time After Time

**T**here's an old advertising maxim which says that the best way to sell an idea is to repeat it, repeat it, repeat it—and then repeat it some more.

In other words, you use the repetitive action of a machine gun.

Well, we've done it at Wolverine. When we counted up the number of times we have told *your* customers to "BUY FROM YOUR WHOLESALER" it totaled 8,269,937. That represents a lot of impacts!

Actually, the total is much higher. We've counted only our direct mail and publication efforts. We've made no effort to compute the number of times we've written the magic phrase for booklets, handy service manuals, in sales promotion and—of course—at trade shows.

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